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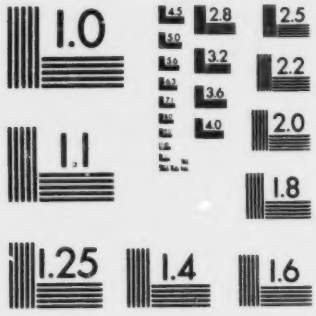

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SITE SELECTION PROCESS

PHASE 4A:
SELECTION OF A PREFERRED SITE(S)

Municipal Finance and Services Analysis

Prepared for:

Ontario Waste Management Corporation

by

Clayton Research Associates Limited

November, 1985

Clayton Research Associates Limited
Economic Consultants

Please reply to: Toronto Office

November 28, 1985

Dr. Peter Homenuck
President
Institute of Environmental Research Inc.
81 Sheppard Avenue West
Suite 201
Willowdale, Ontario
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Dear Sir:

Re: Final Report: SITE SELECTION PROCESS PHASE 4A: SELECTION OF A PREFERRED SITE(S) - MUNICIPAL FINANCE AND SERVICES ANALYSIS

We are pleased to submit the final report for the above noted study. The report documents the analysis of the municipal finance factor during Phase 4A of the site selection process.

Yours truly,

CLAYTON RESEARCH ASSOCIATES LIMITED

Frank A. Clayton, Ph.D
President

FC:km

Enclosures

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Appendix A: Factor Sheets
Appendix B: Municipal Finance Impact Model
Appendix C: Description of Procedures for Estimating Municipal Finance Impact
Appendix D: Contacts

EXECUTIVE SUMMARY

PURPOSE OF THE REPORT

The purpose of this report is to document the municipal finance component of the comparative evaluation of candidate sites. This report introduces municipal finance impacts as one of the factors being utilized by OWMC as input into the site selection process.

In this report, the municipal finance factor and its associated indicators and sub-indicators of municipal finance impacts are defined; the rationale for the selection of the factor and indicators and a ranking of the significance of the indicators are presented; a data summary and method of analysis are presented; and the ranking of the siting options, together with a sensitivity analysis of the effect of varying key assumptions on that ranking, are presented.

SCOPE AND METHOD

The objective of the municipal finance impact analysis is to compare the potential municipal finance impacts of OWMC facilities on candidate area and regional municipalities. The analysis provides sufficient accuracy to permit a comparison among siting options - the emphasis is on the differences between siting options, not the absolute impacts of OWMC facilities.

The municipal finance factor, indicators and sub-indicators used in this analysis are listed on the next page.

Factor	Indicators	Sub-Indicators
Municipal Finance	Net financial impact on area municipality	- increase in municipal revenues - decrease in municipal revenues - increase in operating costs
	Net financial impact on regional municipality	- increase in municipal revenues - decrease in municipal revenues - increase in operating costs
	Net financial impact on area municipal tax rate	

The net financial impact on area and regional municipalities are separate indicators in this analysis but have the same categories of sub-indicators. Equal weight is given in this analysis to area and regional municipal revenues and operating costs as both will have a direct dollar impact on the affected municipality. Relative differences between the impact on area and regional municipal revenues and operating costs are taken into account by the third municipal finance indicator.

The third indicator identified is the net financial impact on area municipal tax rate. This indicator is measured as a proportion of the area municipal tax rate and therefore differs from the other two indicators, which are measured in dollars. Less weight is given in this analysis to this indicator because its impact was judged to be most noticeable in the short-term and the overall im-

pact of the indicator was less significant than the absolute dollar impacts of the other two indicators.

Municipal finance impacts are estimated for the area and regional municipalities in this analysis, not for the site or site vicinities of OWMC facilities. While the impacts of these facilities originate from the site and site vicinities and are accounted for in this analysis, these impacts affect the municipal finance environment as a whole. Some of the site and site vicinity municipal finance impacts which are considered in this analysis include displacement of existing land uses and negative property value impacts as a result of OWMC facilities. Documentation of property value impacts is found in Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985. Some of the area and regional municipal concerns include net changes in revenues, increases in the operating costs for services provided by area and regional municipalities and the increase in the number of municipal households as a result of OWMC facilities.

The determination of access roads, railway access and site boundaries for OWMC facilities were established for each siting option independent of the municipal finance impact analysis being undertaken.

A municipal finance impact model was developed for the purpose of the analysis which is undertaken in this report. The model simulates the municipal finance impacts of alternative siting options, taking into account a wide range of impacts on revenues and operating costs. The revenues and costs shown are based on 1983 data and reflect dollar values for that year.

PREMISES AND POSTULATES

PREMISES

The following assumptions, which have been agreed upon by the site selection team or were provided by other site selection team consultants or by OWMC, have been incorporated into the comparative evaluation analysis of municipal finance impacts:

- Only municipal finance impacts that varied from one siting option to another were to be examined.
- OWMC would make payments-in-lieu of taxes to municipalities chosen for the location of OWMC facilities.
- OWMC would pay for any municipal capital works required by these facilities.
- Municipal finance impacts were calculated for facilities with a capacity to process 300,000 tonnes of special wastes per year.
- Assessed values of the elements of the facilities subject to assessment have been estimated by the Ministry of Revenue at $2.7 million in Niagara Falls, $2.8 million in West Lincoln and $1.4 million in Milton.
- Road access and property boundaries for OWMC facilities were recommended by the site selection team.
- Fire protection for OWMC facilities will be available on site.
- Local school capacities are sufficient to accommodate increases in enrollment as a result of OWMC facilities. To the

extent there is a financial impact on school boards, the impact is almost entirely offset by the Provincial education grant structure.

- There would be no industrial spin-off associated with OWMC facilities.

POSTULATES

The following assumptions have been made by Clayton Research Associates in the comparative evaluation analysis of municipal finance impacts:

- Municipal finance impacts were only estimated for the area and regional municipalities. Only municipal finance impacts that varied from one siting option to another were to be examined. The impact of OWMC facilities on school boards and during the construction phase of the facilities, where the impacts did not appear to vary significantly, were screened from the analysis.

- Municipal revenue and cost impacts were calculated using 1983 as a base year.

- Average costs for municipal services are the appropriate costs to apply to impacts on municipal operating costs.

- User charges for municipal services will not be impacted by OWMC facilities.

- Estimates of employment and household growth resulting from OWMC facilities are those determined in Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

- Property value impacts of OWMC facilities are those determined in the aforementioned report.

- Payments-in-lieu of taxes made by OWMC to municipalities chosen for the location of the facilities are equal to the normal property taxes for such facilities and a 30 percent business tax on the assessed real value of the facilities.

- Increases in area municipal revenues resulting from OWMC facilities will not impact the apportionment of regional and school board levies between municipalities in the jurisdictional area of the candidate regional municipality.

STATUS OF DATA

DATA SOURCES

Data employed in the analysis of municipal finance impacts were obtained from other site selection team consultants, from the Financial Information Returns of the candidate municipalities, interviews with Provincial Ministry of Revenue and Ministry of Municipal Affairs officials, interviews with the chief administrative officers of the candidate municipalities and economic base impact information from Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis. The collection of data was guided by the defined factor, indicators and sub-indicators for the municipal finance impact analysis.

Increase in revenues

Data employed for the estimates of increases in area and regional municipal revenues include area municipal mill rates, regional requisitions on area municipalities, the assessed value of OWMC facil-

ities, Provincial grant contributions to candidate municipalities and household growth estimates.

Decrease in revenues

Data employed for the estimates of decreases in area and regional municipal revenues include area municipal mill rates, regional requisitions on area municipalities, negative property value impacts on the site and site vicinity of OWMC facilities and Provincial grant contributions to candidate municipalities.

Increase in operating costs

Data employed for the estimates of increases in area and regional municipal operating costs include average costs of specific area municipal services, average costs of specific regional municipal services, estimated municipal services required by OWMC facilities and household growth estimates.

Most of the data used in the analysis were obtained from established financial sources. Data on payments-in-lieu of taxes by OWMC were based on estimates of the assessed value of OWMC facilities prepared by Ministry of Revenue officials. Household growth estimates were determined through the economic base analysis.

DATA LIMITATIONS

The data on revenues, operating costs and property taxes are somewhat limited since they apply to a 1983 base while OWMC facilities are not anticipated to be constructed until the late 1980's. At the time the municipal finance impact analysis was undertaken, 1983 data were the most recent data. It was decided at the time the research was undertaken that the use of actual data on revenues,

operating costs and property taxes, rather than forecast data, was adequate for the municipal finance impact analysis.

The assessment values for OWMC facilities are approximate only. The actual assessed value of these facilities cannot be determined until the facilities are in place.

For the municipal finance impact analysis, it was concluded that the available data were adequate to compare and evaluate siting options. It was also concluded that data limitations could be addressed in Phase 4B of the site selection process.

MAIN FINDINGS

The municipal finance impact analysis produced the following findings for submission to the site selection team:

RANKING OF SITING OPTIONS

The six siting options which were compared for municipal finance impacts are ranked from the most preferred to least preferred as follows:

LF-9C
LF-3C
LF-1E
LF-1E/PI-27E
LF-4N/PI-1N
LF-4N/PI-13N

MUNICIPAL FINANCE FACTOR

The estimated municipal finance impacts of OWMC facilities on the candidate municipalities are positive for each siting option. The highest positive impacts were estimated for the two siting options in West Lincoln Township, LF-9C and LF-3C.

NET FINANCIAL IMPACT ON AREA MUNICIPALITY INDICATOR

Payments-in-lieu of taxes made by OWMC have the largest impact on area municipal revenues - particularly for the West Lincoln and Niagara Falls siting options. Changes to Provincial grants and property tax revenues (excluding payments-in-lieu) as a result of OWMC facilities are not estimated to be of significance.

The impact of OWMC facilities on municipal operating costs are significant, particularly in municipalities where a full range of services are provided (i.e., in Niagara Falls).

NET FINANCIAL IMPACT ON REGIONAL MUNICIPALITY INDICATOR

As is the case for area municipalities, OWMC's payments-in-lieu of taxes have the largest absolute impact on regional revenues for all siting options. The largest positive impact is for the two Region of Halton siting options (LF-4N/PI-1N and LF-4N/PI-13N). However, PI-1N has been selected as a back-up sanitary landfill site by the Region of Halton. Should the preferred site not be approved through the environmental assessment process, site PI-1N may become the alternative choice for this regional landfill site; in which case, regional operating costs under siting option LF-4N/PI-1N would rise significantly.

The impact of property tax changes (excluding payments-in-lieu) and Provincial grant changes on regional revenues are small in comparison to the impact of OWMC payments-in-lieu.

Changes in regional operating costs vary by siting option largely due to the length of the access roads to the siting option which the region has to maintain. The impacts of OWMC facilities on regional operating costs are quite large and have a significant effect on the ranking of siting options. The impacts on regional municipal operating costs are expected to be the highest for the two West Lincoln sites in the Region of Niagara.

NET IMPACT ON AREA MUNICIPAL TAX RATE INDICATOR

The difference in size between candidate municipalities is an important element in the estimation of the relative impact of OWMC facilities on the area municipal tax rate. It is estimated that the tax rate for West Lincoln would be the most positively affected by OWMC facilities and Milton the least.

SENSITIVITY ANALYSIS

The ranking of siting options according to their municipal finance impacts does not change significantly by varying key underlying assumptions. Sensitivity tests were conducted for: facilities having a treatment capacity of 150,000 tonnes; maximum negative property value impacts with household out-migration; a partial solidification option; assessment of the entire OWMC site as industrial property; no payments-in-lieu of business taxes made by OWMC; a higher wage impact on municipal salaries in West Lincoln; and municipal debt charges included in the municipal operating cost calculations. The elimination of payments-in-lieu of business taxes in the sensitivity analysis resulted in the municipal finance impacts being negative for the two Milton siting options.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The municipal finance impact analysis (of municipal revenues, costs and services) undertaken here was suitable to compare alternative siting options for OWMC facilities in order to select a preferred siting option for the municipal finance factor. The sensitivity analysis shows that payments-in-lieu of business taxes made by OWMC to the candidate municipalities would be essential to ensure that the impact of OWMC facilities on municipal finances is positive. The removal of the business tax payments which non-public facilities generally pay results in the financial impact of the facilities on the two Milton siting options being negative.

RECOMMENDATIONS

Phase 4B of the site selection process, the detailed evaluation of the preferred siting option, should examine more specifically and in greater detail: the municipal finance impacts from possible spin-off industries; the use of incremental costs as opposed to average costs in the estimate of municipal operating cost impacts; the possibility that municipal service levels will be affected by OWMC facilities; the possibility that increases in area municipal revenues will impact the apportionment of the regional levy between area municipalities; any impacts on school boards; the impacts of similar projects on municipal revenues and operating costs in other municipalities; and the impact of OWMC facilities on possible future growth scenarios of the candidate municipalities.

CHAPTER 1
INTRODUCTION

1.1 PURPOSE

The purpose of this report is to document the municipal finance component of the comparative evaluation of candidate sites. This report introduces municipal finance impacts as one of the factors being utilized by OWMC as input into the site selection process.

This report: (1) identifies a municipal finance factor and indicators for estimating municipal finance impacts;* (2) describes the financial and service structure of the five municipalities - three area and two regional municipalities - where siting options have been selected for the possible location of OWMC facilities;** and (3) documents the analysis of impacts of OWMC facilities on the finances and services of these municipalities.

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* A factor represents a positive or negative consideration which assists in comparing siting options. Factors refer to risks, impacts or engineering cost considerations. A siting option refers to the site or combination of sites required to accommodate all OWMC facilities (i.e., the landfill, incinerator and physical/chemical treatment and solidification plant). An integrated siting option involves all facilities on one site.

** The area municipalities are the Town of Milton, the City of Niagara Falls and the Township of West Lincoln; the regional municipalities are the Regions of Halton and Niagara. An eighth site in the City of Mississauga, LF-2N, has been dropped by OWMC from consideration because the site could not ensure the natural containment of the planned engineered landfill. See M.M. Dillon, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Interim Site Selection Report, Candidate Site LF-2N, 1985.

The ranking of siting options by municipal finance impact is one component of the overall Phase 4A site selection process. In the overall site selection process, a large number of factors are combined to arrive at the preferred siting option. These factors cover a wide range of considerations, including several risk considerations (e.g., transportation, air quality, hydrogeologic suitability, surface water suitability), environmental impact considerations (e.g., residents, businesses, community and recreation features, natural environment, air dispersion/air quality, community and regional, land use, agricultural resources) and engineering cost considerations (e.g., overall facilities costs, site area for facilities placement). The municipal finance factor falls under the community and regional factor grouping as part of the potential environmental impact.*

Three site selection goals have been established by OWMC to guide the site selection process. In order of importance, these are:

- To minimize risk to human health;
- To minimize environmental impact; and
- To minimize financial costs to OWMC and the people of Ontario.

The municipal finance factor includes both positive and negative impacts on the candidate municipalities. On the positive side, there is the potential for an increase in revenue as a result of increased tax assessment, including payments-in-lieu. On the negative side, there is the potential for an increase in operating

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* M.M. Dillon, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Site Selection, 1985.

costs and some loss in existing tax assessment. All of these potential impacts are discussed in this report.

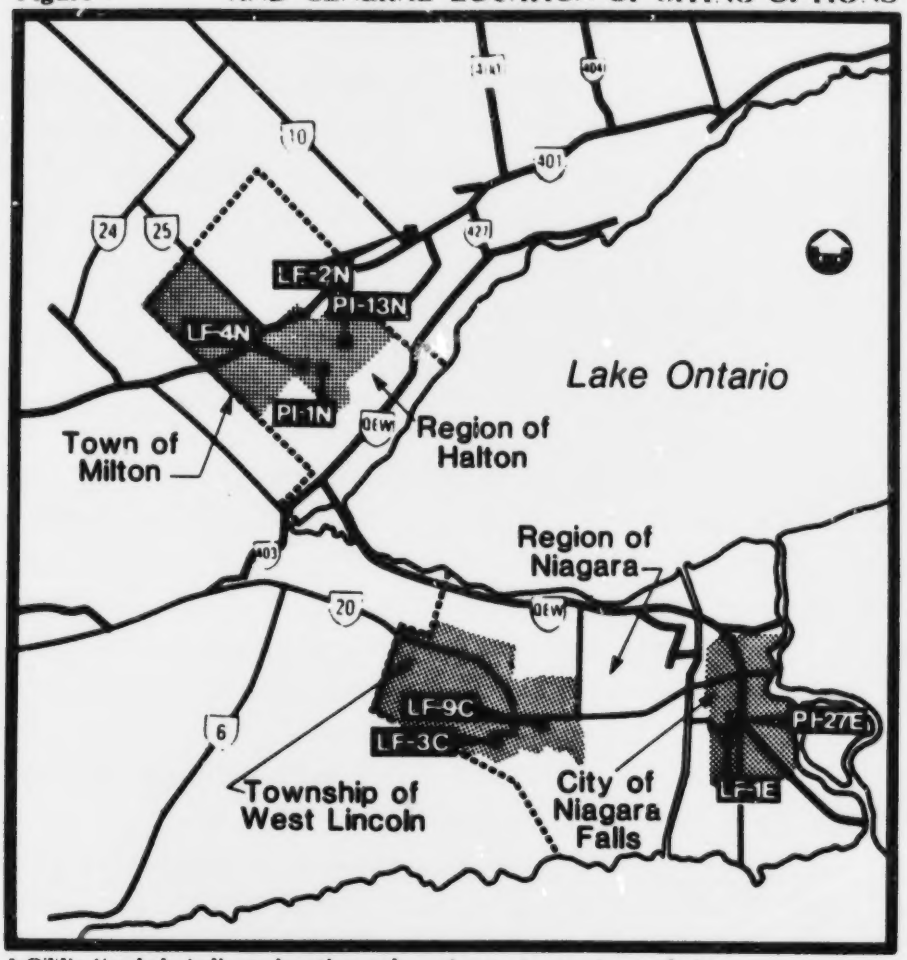
The five municipalities discussed in this report are referred to as candidate municipalities. Their locations, along with the location of the six siting options under consideration, are shown on Figure 1.

1.2 BACKGROUND

The identification of the preferred siting option for OWMC facilities, which is the objective of Phase 4A of the site selection process, builds on an earlier process of identification of candidate sites in Phase 3. Municipal finance impacts were not considered in earlier phases of this site selection process and are being introduced into the Phase 4A analysis (along with a number of other considerations) due to the need for site specific and detailed risk, impact and engineering cost comparisons. For this reason, this report contains a considerable amount of data and background on municipal finance structure, both in the main body of the report and in the appendices. This report forms the basis for presenting all municipal finance data under consideration in the site selection process.

Some of the data used in the municipal finance impact analysis were obtained from other Phase 4A studies. Linkages between the municipal finance and services analysis and other Phase 4A studies are outlined in Table 1.

Figure 1 CANDIDATE MUNICIPALITIES AND GENERAL LOCATION OF SITING OPTIONS



NOTE: Symbols indicate location only, and not size or shape of sites

LEGEND

- Candidate Sites
- 400 Series Highways
- Other Highways and Roads
- LF — Landfill
- PI — Physical/Chemical Treatment Plant and Incineration

Miles 0 10

Kilometers 0 10

TABLE 1

LINKAGE OF THE MUNICIPAL FINANCE STUDY TO OTHER PHASE 4A STUDIES

Study	Consultant	Relationship to Municipal Finance Study
Agricultural Impacts	Ecologistics Ltd.	- Ecologistics provided base maps of the siting options and an inventory of properties on the municipal assessment rolls - Ecologistics provided a list of agri-businesses
Analysis of Official Plans	Leon Kentridge and Associates Ltd. (LKA)	- LKA provided input into future scenario projections - LKA provided assessors' reports on the candidate sites - Clayton Research provided information on industrial growth and development
Economic Base	Clayton Research Associates Ltd.	- Provided economic base data on the employment, household growth and property value impacts associated with OWMC facilities
Engineering	M.M. Dillon Ltd. Monenco Ltd.	- Both provided a variety of technical data regarding facilities characteristics - Clayton Research provided information on municipal finance to Monenco Ltd.
Site Selection	M.M. Dillon Ltd.	- Dillon provided overall direction and co-ordination during the site selection process
Social Impacts	Institute of Environmental Research Inc. (IER)	- IER provided information on school enrollment - IER provided data from their portion of the "Walk and Talk" program on the number of households that indicated they would move due to OWMC facilities and a list of home-businesses - IER provided input on future scenario projections - Clayton Research provided household projections

1.3 RELATIONSHIP TO THE SITE SELECTION PROCESS

OWMC has adopted a five-phase site selection process. The first phase was the narrowing of the site search to a single large geographic region in Ontario. In Phase 2, candidate areas within this large region were identified. In Phase 3, candidate sites within these candidate areas were selected. In Phase 4A, the current phase of work, siting options are compared and the preferred siting option selected. In the next stage (Phase 4B), a detailed testing of the preferred siting option will occur. The final phase of the site selection prccess involves public hearings.

In comparing and contrasting the siting options during the current Phase 4A work, Clayton Research Associates has responsibilities in two areas: (1) the analysis of the potential municipal finance impacts (including impacts on municipal services) of OWMC facilities; and (2) the analysis of some of the potential economic base impacts of OWMC facilities.* This municipal finance report relies on some of the findings of the economic base impact analysis, including household growth estimates, employment and industry spin-off estimates, business displacement estimates and estimates of effects on property values. Data were obtained from other site selection consultants including the cost of the facilities, the site area of the facilities and local school enrollment.

The factor identified for this comparative evaluation is municipal finance. This factor predicts the effect on municipal revenues and costs of OWMC facilities under each siting option as well as the more significant repercussions on existing municipal

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* The economic base analysis is contained in a separate report by Clayton Research Associates: Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

administration and services beyond what are reflected in the municipal cost figures. The net gain (loss) in dollars to both the area and regional municipalities, the percentage impact on property tax rates in the area municipality and the potential negative repercussions on existing services and municipal administration are used to measure the municipal finance impacts.*

Figure 2 illustrates the relationship of the municipal finance factor to the broad spectrum of factors being considered in Phase 4A of the site selection process. As previously stated, this factor is part of the general grouping of factors which pertain to environmental impacts.

1.4 APPROACH

The general approach to Phase 4A of the site selection process is illustrated in Figure 3.** For the comparative evaluation of the municipal finance factor, the following steps were involved:

- Identification of factor, indicators and sub-indicators.

- Data collection.

  Municipal finance data were collected on each candidate municipality from: (1) the Financial Information Returns of the municipalities; and (2) from interviews with the chief administrative officers and other senior personnel in the

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* These detailed considerations are referred to as indicators.
** For a more detailed description of the Phase 4A site selection process see M.M. Dillon, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Site Selection, 1985.

FIGURE 2

MUNICIPAL FINANCE FACTOR IN THE COMPARATIVE EVALUATION OF FACILITY SITING OPTIONS

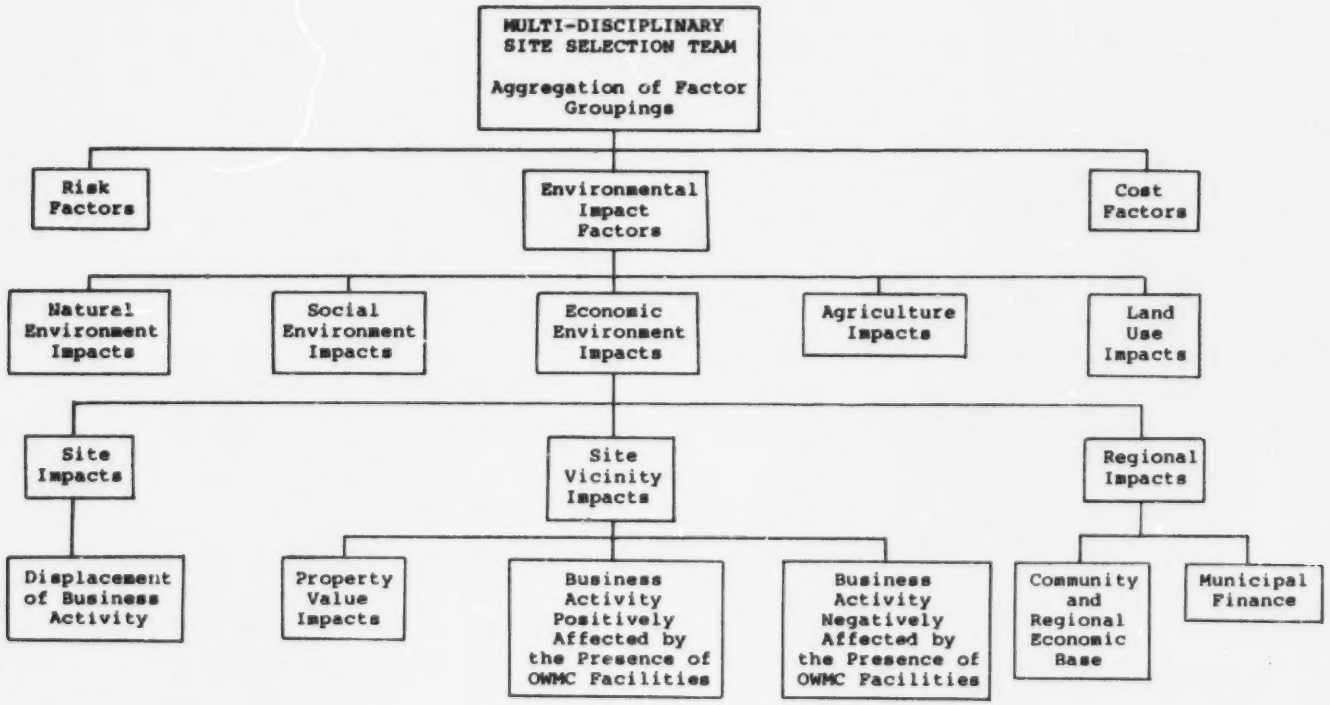
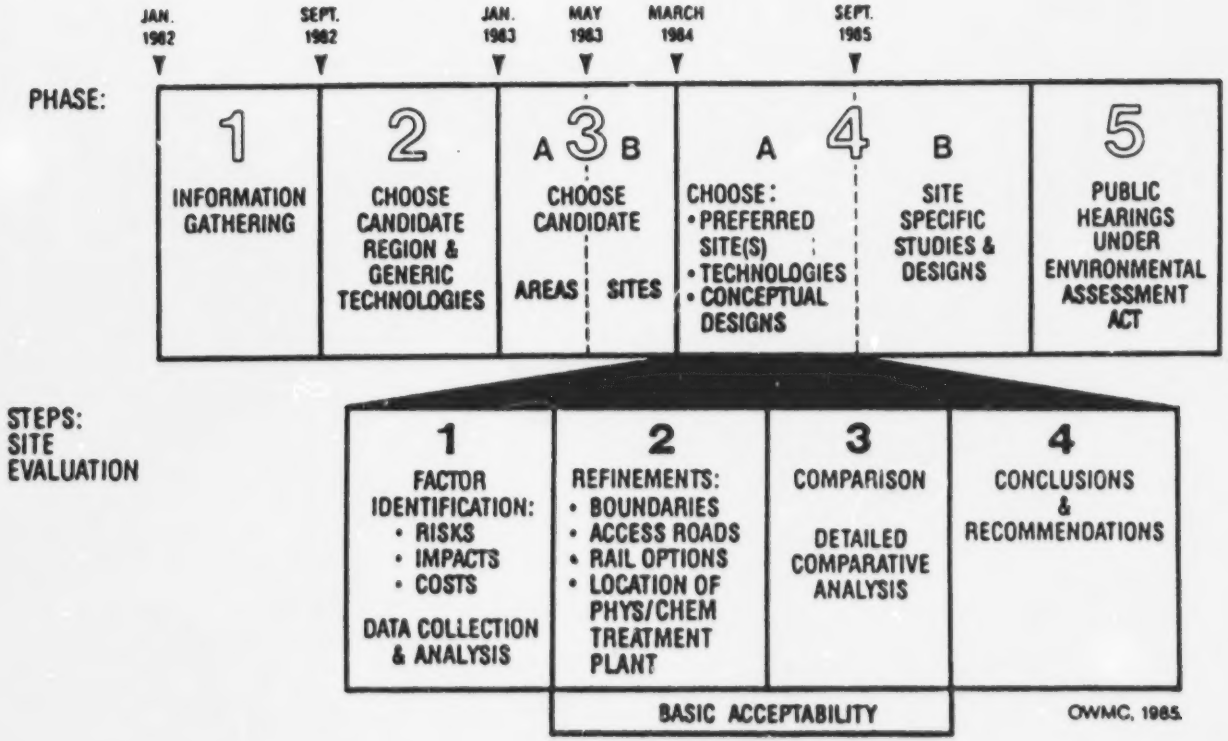


FIGURE 3

FACILITIES DEVELOPMENT PROCESS



municipalities and in the Provincial Ministry of Revenue and Ministry of Municipal Affairs. Background economic and demographic data were based largely on information contained in Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

- Data analysis.

A municipal finance impact model was developed and computerized. The model is capable of analyzing the complex relationship among revenues and costs in the five candidate municipalities. The municipal finance impact model predicts the potential municipal finance impact of each of the various OWMC siting options on the candidate municipalities. These potential impacts can vary due to the differences in OWMC siting options, the diverse composition of each municipality and its unique blend of revenue sources and services.

- Basic acceptability analysis.

The siting options were tested for any severe constraints for municipal finance impacts.

- Detailed comparative evaluation.

The municipal finance impacts on each siting option were then predicted and the siting options compared.

- Ranking of siting options.

Siting options were ranked according to their municipal finance impacts and qualitative impacts were introduced for consideration. The ranking of siting options also took into

account appropriate input from municipal officials and discussions with other members of the site selection team.

- Sensitivity analysis.

  The sensitivity of the ranking of siting options was tested by varying several assumptions and introducing these changes into the municipal finance impact model. The effect of selected mitigation actions were also introduced.

1.5 ORGANIZATION OF THE REPORT

This report is divided into six chapters which cover the following topics:

- Chapter 2, Framework for Municipal Finance Impact Analysis, outlines and defines the factor, indicators and sub-indicators used in the comparative evaluation process, describes the key parameters of the municipal finance impact analysis, provides a description of the computerized model developed specifically for this analysis and provides a summary of the data analysis undertaken.

- Chapter 3, The Municipal Finance Environment, highlights the municipal finance structure and services provided in the candidate municipalities and summarizes how this structure affects the comparative evaluation process of municipal finance impacts.

- Chapter 4, Basic Acceptability, discusses whether there are any severe municipal finance constraints or characteristics of

the candidate municipalities that would render any siting option unacceptable for OWMC facilities.

- Chapter 5, Comparative Evaluation Process, outlines the process and the results of the comparison of the siting options for the municipal finance factor. The six siting options are ranked from most preferred to least preferred.

- Chapter 6, Sensitivity Analysis and Potential for Mitigation, examines the sensitivity of the siting option rankings to selected alternative assumptions and briefly looks at possible methods of alleviating the more significant negative municipal finance impacts through specific mitigative actions undertaken by OWMC.

In addition, there are four appendices:

- Appendix A, Factor Sheets, provides a description of the municipal finance factor and its associated indicators.

- Appendix B, Municipal Finance Impact Model, provides a detailed description of the municipal finance impact model.

- Appendix C, Description of Procedures for Estimating Municipal Finance Impact, describes in detail the estimating procedures which were developed to implement the municipal finance impact model.

- Appendix D, Contacts, provides a list of the persons contacted during the course of the research for the municipal finance impact analysis.

CHAPTER 2
FRAMEWORK FOR MUNICIPAL FINANCE IMPACT ANALYSIS

2.1 PURPOSE

The goals of the site selection work with respect to municipal finance are: (1) to determine how the various OWMC siting options would affect the finances and services of each candidate area and regional municipality; and (2) to rank siting options on the basis of this comparison.

This chapter describes the framework which is used in the municipal finance impact analysis. First, a description of the factor and indicators used in this analysis is provided. Second, the range of considerations in the determination of municipal finance impacts is outlined along with a description and discussion of assumptions. And, third, a summary of data collection and analysis, including a discussion of the municipal finance impact model, is provided. A detailed analysis of municipal finance data is contained in Appendix C.

2.2 FACTOR DESCRIPTION

This section discusses the municipal finance factor and the linkage between the factor and its component indicators and sub-indicators.

2.2.1 DEFINITION OF FACTOR AND INDICATORS

A factor represents a positive or negative consideration which, because it varies from one siting option to another, assists in the comparison of siting options.* A factor may be subdivided into two or more indicators. Indicators are utilized to more precisely identify and describe multi-faceted impacts.

2.2.2 FACTOR IDENTIFICATION

The following four considerations led to the identification of the municipal finance factor:

- The dollar amount of the difference between potential increases in revenues and costs for the three area municipalities due to OWMC facilities;
- The dollar amount of the difference between potential increases in revenues and costs for the two regional municipalities due to OWMC facilities;
- The relative importance of the potential net financial impact of OWMC facilities on the three area municipalities;** and
- The potential ramification of OWMC facilities on municipal services beyond those reflected in the revenue/cost analysis.

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* For technical descriptions and examples of factors and indicators, see M.M. Dillon, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Site Selection, 1985.

** The relative importance of the potential net financial impact on regional municipalities was dropped as an indicator during the preliminary identification of factors and indicators (which is discussed in Chapter 5) because the relative financial impact on regional municipalities was judged to be too small to provide a meaningful comparison between siting options.

The answers to these considerations were expected to vary to some degree from one siting option to another and thus could be used to compare and contrast the siting options.

2.2.3 THE MUNICIPAL FINANCE FACTOR

TABLE 2

FACTOR, INDICATORS AND SUB-INDICATORS IDENTIFIED FOR MUNICIPAL FINANCE IMPACT ANALYSIS

Factor	Indicators	Sub-Indicators
Municipal Finance	Net financial impact on area municipality	- increase in revenues
		- decrease in revenues
		- increase in operating costs
	Net financial impact on regional municipality	- increase in revenues
		- decrease in revenues
		- increase in operating costs
	Net financial impact on area municipal tax rate	

The municipal finance factor is used here to quantify the potential net impact of OWMC facilities on the finances of each of the area and regional municipalities where the siting options are located. Three indicators, (a) net financial impact on area municipality, (b) net financial impact on regional municipality, and (c) net financial impact on area municipal tax rate, were identified for this factor. The net financial impact on area municipality indicator is, in turn, divided into three sub-indicators: increase in revenues; decrease in revenues; and increase in operating costs. Similarly, the net financial impact on regional municipality indicator is divided into these same sub-indicators, but as they apply to the regional municipality. The last indicator, net financial impact on area municipal tax rate, is not divided into sub-indicators.

The factor and indicators identified here form the basis for the collection and analysis of municipal finance impact data conducted in Appendix C. They are in turn used in Chapter 5 to compare and evaluate differences in municipal finance impacts among siting options.

2.3 MUNICIPAL FINANCE IMPACT ASSUMPTIONS

The potential municipal finance impact of OWMC facilities under any specific siting option is related to the characteristics of the facilities, the economic impacts resulting from the facilities (both positive and negative) and the service and financial structure of the candidate area and regional municipalities.

This part of the chapter describes the overall analytical framework for the municipal finance impact analysis, the assumptions made pertaining to facilities characteristics and the relevant economic impacts resulting from OWMC facilities on municipal finances.

2.3.1 STUDY AREA

Since the municipal finance impact analysis is on an area or regional municipality basis, the work of Clayton Research Associates focuses on the larger issue of the comparison of siting options and not on more specific issues such as the refinement of site boundaries, access road options or rail access options. The analysis examines the area and regional municipalities in which the siting options are situated. As previously noted, these include three area municipalities (the Township of West Lincoln, the City of Niagara Falls and the Town of Milton) and two regional municipalities (the Regional Municipalities of Niagara and Halton).

2.3.2 BASE YEAR

The basic approach to the impact analysis undertaken in this report is to superimpose OWMC facilities under various siting options on the municipal financial structure as it existed in 1983. The year 1983 is the latest year for which complete financial data was

available at the time the research was undertaken. Hence, it is assumed that the facilities were built and in operation in the year 1983.*

An alternative to the above approach would have been to project the economic and municipal finance environment at the time OWMC facilities are expected to begin operation and to superimpose the facilities at that time. This approach requires a greater reliance on forecast data than does the 1983 base year approach and while this approach could be applied in Phase 4B of the site selection process (when more detailed and site specific analysis is to be undertaken), it was not utilized here due to the degree of uncertainty arising from the large number of underlying assumptions required with this approach.

The approach used here is based on an actual situation (actual financial data) rather than projections. The major limitation of this approach is that, as most municipalities grow over time, financial impacts would be overstated (since relative financial impacts tend to be greater the smaller the size of the municipality). This should not be a problem in this analysis, since any limitations associated with this approach apply equally to all siting options and therefore should not influence the ranking of the siting options.**

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* The one exception to the use of 1983 as the base year pertains to unconditional grant revenues. See page 34 for details.

** This is especially true for the three area municipalities where minimal or slow growth is anticipated over the next decade. Milton will require a major expansion of services before significant growth will take place. Evidence also suggests that the slow pace of growth experienced by both Niagara Falls and West Lincoln will continue.

2.3.3 FACILITIES AND SITE CHARACTERISTICS

The facilities characteristics are important inputs into the revenue side of the municipal finance impact analysis, particularly the costs of the portions of buildings and other improvements which are liable for assessment under The Assessment Act.

OWMC is proposing three facility components to treat liquid and hazardous industrial wastes: (1) a rotary kiln incineration plant; (2) a physical/chemical treatment and solidification plant; and (3) an engineered landfill in which the inert residues from the two processes are disposed.* Some siting options are integrated, i.e., all three facility components are placed on the same candidate site. Other options are partially integrated involving two sites where the landfill is located at one site and the incinerator at another site, and a choice remains between placing the physical/chemical treatment and solidification plant at either site.

The six siting options encompass seven candidate sites.** They are shown in Figure 5, on page 74, and are as follows:

- Integrated facilities: Three siting options in the Region of Niagara have been identified as being suitable for the integrated configuration, LF-3C and LF-9C in the Township of West

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* For a description of each of these components refer to Monenco Limited, Facility Design, 1985.

** An eighth site in the City of Mississauga, LF-2N, has been dropped by OWMC from consideration because the site could not ensure the natural containment of the planned engineered landfill. See M.M. Dillon, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Interim Site Selection Report, Candidate Site LF-2N, 1985.

Lincoln and LF-1E in the City of Niagara Falls (see Figure 1 for the location of these siting options).*

- Partially integrated facilities: Site LF-1E in the City of Niagara Falls could be used for the engineered landfill in combination with a nearby site in the same municipality, PI-27E, which would accommodate the incinerator and the physical/chemical treatment and solidification plant.

  The other two partially integrated siting options are located in the Town of Milton. The engineered landfill could occupy site LF-4N with either a nearby site, PI-1N, or a site somewhat further away, PI-13N, containing the incinerator and the physical/chemical treatment and solidification plant.

The findings of the municipal finance impact analysis are presented for these six siting options. The siting options influence the degree of municipal finance impacts due to: (1) the size of the area associated with the siting option; (2) the type and number of existing on-site uses; (3) the existing uses in the vicinity of the siting option; and (4) the access road(s) leading to the siting option (the size of the site area and access road(s) for each siting option were treated as given in the municipal finance impact analysis).

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* The LF designation refers to a site which is being considered for an engineered landfill or which can accommodate a landfill, an incinerator and a physical/chemical treatment and solidification plant. A PI designation refers to a site suitable for locating an incinerator or an incinerator together with a physical/chemical treatment and solidification plant.

Construction costs for assessable elements

The total costs of constructing OWMC facilities has been estimated by Monenco Limited to be approximately $192 million (1984 dollars).* However, not all the facilities are liable for assessment under The Assessment Act. A large part of the facilities consists of processing machinery and equipment which is exempt from assessment under The Assessment Act.** The value (expressed in terms of 1984 dollars) of the facilities elements subject to assessment has been estimated by Monenco Limited at $58 million. Thus, the dollar values of assessment associated with the siting options, as estimated by the Ministry of Revenue, are $2.6 million in Niagara Falls, $2.8 million in West Lincoln and $1.4 million in Milton.***

Capacity of 300,000 tonnes per year

The site selection team is basing their impact and ranking analysis on the assumption that the facilities will have a capacity to process 300,000 tonnes of special wastes per year. While this assumption is employed here, it should be noted this capacity is twice the proposed initial capacity and represents the possible size of the facilities in their tenth year of operation.

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* See Monenco Limited, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Engineering, 1985.

** The Assessment Act exempts the following: "All machinery and equipment used for manufacturing or farming purposes or for the purposes of a concentrator or smelter of ore or metals, including the foundations on which they rest, but not including machinery and equipment to the extent that it is used, intended or required for lighting, heating or other building purposes ...", The Assessment Act, R.S.O. 1980, Section 3(17).

***See Appendix C, page C-4, for more detail.

The 300,000 tonnes per year capacity was chosen to represent the "base case" scenario for the analysis of impacts such as transportation, air emissions and water quality. The municipal finance impact analysis (as well as the economic base analysis which provides input into the municipal finance analysis) differs in a significant way from most factors being considered. Because of the real property assessment associated with the facilities, as well as the favourable economic consequences flowing from increased employment, the construction of OWMC facilities has a number of positive impacts on municipal finance (there are, of course, negative impacts as well). Consequently, the choice of the 300,000 tonnes figure exaggerates the level of these positive impacts for the early years of operation if the facilities initially have a capacity of processing 150,000 tonnes per year. However, the use of the larger capacity figure does not affect the relative ranking of the siting options.*

Total solidification

The quantity of residue material requiring solidification will vary according to the disposal option selected and the extent to which final effluent can be used on-site for process purposes.** The extent to which the residues are solidified will influence the life of the engineered landfill.

For the base case municipal finance impact analysis, it is assumed that all the residues will be solidified. In the sensitivity analysis in Chapter 6, an impact analysis is undertaken for a partial solidification scenario.

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* The sensitivity of the siting option rankings to facilities with a 150,000 tonnes capacity is examined in Chapter 6.

** Monenco Limited, Facility Design, 1985.

Site area assessed as industrial land

Virtually all the land area of the six siting options is currently zoned as farm land. Under current assessment legislation, land used for farm purposes is only assessed on its value as farm land. The arrival of OWMC facilities would change the use of a portion of the selected siting option from farm to industrial. Industrial land generally has a much higher market value, and therefore a higher assessed value, than farm land. If the land is serviced (with sewer and water facilities), it would have a higher market value than unserviced industrial land, and therefore also have a higher assessed value.

For the analysis in this report, it is assumed that the portion of the siting option used for structures will be assessed as serviced industrial land while the engineered landfill will be assessed as unserviced industrial land. The remainder of the siting option would retain its current assessed value as farm land.*

The amount of land to be assessed as industrial was estimated as follows: Monenco Limited provided the site area to be occupied by the physical/chemical treatment and solidification plant, the incinerator and associated buildings and provided an estimate of the area to be occupied by the engineered landfill and its associated building in the tenth year of operation. The area estimated to be occupied by these facilities is shown in Table 3 for the various siting options. The total area is estimated at 79.4 hectares for two integrated options (LF-3C and LF-1E), 81.9 hectares for the third integrated option (LF-9C) and 79.7 hectares for the three partially integrated siting options.

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* A sensitivity test is conducted in Chapter 6 using the assumption that all land assessed as farm land in the base case scenario is assessed as unserviced industrial land.

TABLE 3

ESTIMATED AREA TO BE ASSESSED AS FARM AND INDUSTRIAL LAND BY SITING OPTION

Siting Option	Area Municipality	Total Site Area	Site Area Farm Land	Assessed As: Serviced Industrial	Assessed As: Unserviced Industrial
		Hectares			
LF-3C	West Lincoln	206.0	126.6	17.4	62.0
LF-9C	West Lincoln	135.0	53.1	19.9	62.0
LF-1E	Niagara Falls	273.0	193.6	17.4	62.0
LF-1E/PI-27E	Niagara Falls	323.0	243.3	17.7	62.0
LF-4N/PI-1N	Milton	343.0	263.3	17.7	62.0
LF-4N/PI-13N	Milton	338.0	258.3	17.7	62.0

Source: Based on information from Monenco Limited.

2.3.4 ECONOMIC IMPACTS

The construction of OWMC facilities is expected to have a number of economic impacts on the municipalities. These in turn have implications for the flow of municipal revenues and the demand for municipal services including the cost of these services.

Two impacts that are significant for the municipal finance impact analysis are the number of households generated in both the area and regional municipalities and the extent of the negative impact on property values in the vicinity of the siting options.

Estimated number of households generated

The operation of the planned OWMC facilities will generate new employment within the candidate municipalities and in turn additional households will be created. In Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, undertaken by Clayton Research Associates, a detailed analysis and estimate of direct, indirect and induced employment emanating from OWMC facilities provides a means for estimating employment multipliers for these facilities. These multipliers, when combined with estimates of employees residing within and outside the area and regional municipalities, was used as the basis for producing a house-

hold growth forecast for the candidate municipalities.*

TABLE 4

ESTIMATED HOUSEHOLDS GENERATED IN AREA AND REGIONAL MUNICIPALITIES BY OWMC FACILITIES

Siting Option	Area Municipality	Area Municipality Households	Regional Municipality Households
LF-3C	West Lincoln	67	133
LF-9C	West Lincoln	60	150
LF-1E	Niagara Falls	116	165
LF-1E/PI-27E	Niagara Falls	125	178
LF-4N/PI-1N	Milton	77	172
LF-4N/PI-13N	Milton	77	172

Source: Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

Table 4 shows the estimated number of households generated in the area and regional municipalities by siting option. The number of households generated in area municipalities ranges from a high of 125 households for LF-1E/PI-27E in Niagara Falls to a low of 60 households for LF-9C in West Lincoln. An estimated 178 households would be generated in the Region of Niagara under siting option LF-1E/PI-27E while 133 additional households would be generated by siting option LF-3C.

The estimates of the number of households generated by OWMC facilities are used in the comparative evaluation process when estimating increases in area and regional revenues from property taxes and unconditional grants and municipal expenditures. A sensitivity test is undertaken in Chapter 6 to include the possible outflow of households due to the presence of OWMC facilities.

Estimated negative property value impacts

To the extent the planned OWMC facilities have a negative impact on adjacent land parcels or to the extent they create a perception of a negative impact on adjacent land parcels, there could be a reduced demand for properties located within the site vicinity of the

* For a detailed discussion of the estimate of the number of households generated by OWMC facilities see Appendix E of Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

selected siting option. A review of the literature dealing with property value consequences of a variety of facilities across North America revealed a wide variation in the estimated impacts ranging from nil to highly negative. Impacts were also found to differ by type of property.

In Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, a detailed analysis of property value impact estimates for each of the siting options was undertaken. The calculations were based on an estimate of market value of property in the vicinity of the siting options and assumptions about the probable impact of OWMC facilities on those market values.

TABLE 5

ESTIMATED CHANGE IN VALUE OF REAL PROPERTY IN THE VICINITY OF OWMC FACILITIES

Siting Option	Change in Property Values ($000)
LF-3C	-451
LF-9C	-435
LF-1E	-679
LF-1E/PI-27E	-1,050
LF-4N/PI-1N	-1,487
LF-4N/PI-13N	-1,912

Source: Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

In this analysis, it was estimated that the decline in property values in a 1,500 metre zone surrounding each siting option would vary from $435,000 for siting option LF-9C to $1,912,000 for siting option LF-4N/PI-13N.*

The estimate of negative property value impacts in the vicinity of OWMC facilities is used in the comparative evaluation process for the municipal finance factor to calculate decreases in

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* For a detailed discussion of the estimate of change in value of real property in the vicinity of OWMC facilities see Appendix C of Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

area and regional municipal assessment, and thus revenues, resulting from the location of OWMC facilities on each siting option.

2.3.5 MUNICIPAL FINANCE CONSIDERATIONS

The essential purpose of this report is to examine how OWMC facilities are likely to affect the service levels, expenditures and revenues of the candidate area and regional municipalities and how these impacts vary by siting option. A number of elements have to be considered to focus the municipal finance impact analysis on the specific characteristics of the OWMC situation.

Stress on operating costs

The analysis examines the impact of OWMC facilities on candidate municipality operating costs rather than on total current expenditures. Operating costs are defined as current expenditures less long-term debt charges and transfers to other funds.* Debt charges are excluded because they represent charges related to capital expenditures made in preceding years.** Transfers to other funds generally represent deferred capital expenditures.

Current expenditures financed through conditional grants from the Ontario Government are then subtracted, since these costs are not borne directly by taxpayers residing in the area or regional municipalities.

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* Current expenditures refer to expenditures of the revenue fund. Transfers to own funds include transfers to the capital fund to finance capital expenditures and transfers to reserve funds.

** A sensitivity test is conducted in Chapter 6 with a portion of debt service charges included in operating costs.

Exclusion of capital costs

Capital outlays such as the upgrading of roads, the expansion of sewer or water facilities or the purchase of equipment (e.g., a fire truck) are excluded from the present analysis because any impact of OWMC facilities on these municipal capital outlays will not vary significantly by siting option. The reasons are threefold: first, OWMC has stated that it will be responsible for any capital costs associated with sewer and water supply whether these services are provided by a municipality or provided directly by OWMC; secondly, OWMC is assumed to bear the costs of upgrading local or regional access roads to provincial standards; and thirdly, OWMC has indicated that fire protection service will be available at its facilities.

Hence, any major capital outlays resulting directly from the facilities will be borne by OWMC and not the respective municipality. In addition, the estimated number of new households to be generated by OWMC facilities would not be of sufficient scale to generate a demand for an expansion of the municipal capital infrastructure in any of the candidate municipalities.*

Exclusion of sewer and water services

Operating costs for sanitary sewer and water are not considered in the municipal finance impact analysis. Since sewer and water services in the candidate municipalities are charged on a user pay basis, to cover both operating and capital costs, detrimental im-

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* Milton is a possible exception since it has nearly reached the limits of its current sanitary sewer capacity. For purposes of this analysis, it is assumed that the Town can in fact absorb the estimated 77 households generated. If these households do not locate in Milton, the costs and revenues associated with OWMC in the municipal finance impact analysis for Milton will be slightly lower.

pacts are not expected for these services as a result of either the construction of OWMC facilities or the arrival of new households. To the extent the facilities use these services, OWMC will presumably pay like any other user in the municipality.

Average cost approach

The municipal costs associated with an increase in the number of households in a municipality could be considered in various ways. One way would be to determine the incremental costs associated with a given level of household growth. For services already at capacity, an increase in the number of households could result in an incremental cost. The types of services where large incremental costs could occur are those services with a heavy capital component such as arenas and recreation/community centres. In this instance, it is not possible to make small additions to capacity as demand dictates (e.g., a municipality with two arenas adds a third thus representing a 50 percent expansion of arena capacity). Other services may have excess capacity resulting in nil incremental costs (e.g., a fire station built years previously may have sufficient capacity to accommodate expected future growth).

The consideration of incremental costs of municipal services as a determinant of municipal costs can be brought into the comparative evaluation process indirectly through qualitative, rather than quantitative, considerations. This is the approach adopted here. Those facilities and services which are nearing or are at capacity (based on interviews with municipal chief administrative officers) are flagged as having potential incremental costs to municipalities. Otherwise, an average cost analysis is applied to estimate impacts on municipal costs.

The average cost approach is based on the average cost per household, or other similar variable, of providing municipal ser-

vices. These average costs, which are based on existing financial data, are then applied to the growth in households to obtain estimates of the increase in operating costs associated with OWMC facilities. The operating cost increase estimates are then used as a sub-indicator for both the area and regional municipality indicators for net financial impact.

The use of average costs where services are not nearing their capacity likely overestimates municipal costs; an underestimate could arise where services are at capacity. Normally, the average cost for a municipal service would decline as demand increases given sufficient capacity. While this is a consideration, it is not regarded to be significant enough to affect the ranking of the siting options by the municipal finance factor.

Municipal services categorized as either people only or joint services

Municipalities incur most, if not all, of their costs in the provision of: (1) services to people, in their capacity as residents; and (2) services which accrue to both the owners and occupants of property. These are referred to as services to people only and joint services to people and property, respectively. The division of municipal services utilized in the municipal finance impact analysis is as follows:

Services to People Only	Joint Services to People and Property
- Health services	- General government
- Social and family services	- Protection to people and property
- Recreation and cultural services	- Environmental services excluding sewer and water
	- Transportation services
	- Planning and development

The division of services into these two categories is required to identify those municipal operating costs which are associated with residential land uses and those which are associated with non-residential land uses. This becomes important in calculating the financial impact of household growth on municipal services. Services to people only are costed totally to residential households. Joint services to people and property are apportioned between residential and non-residential land uses.

Allocation of joint service costs between residential and non-residential property

A commonly utilized method for allocating the municipal costs of joint services associated with a specific development or facility between residential and non-residential property is as follows:*

- Apportion the joint service costs according to the estimated proportion of relative market values for residential and non-residential property.**

This approach assumes that the relative market value of residential and non-residential property approximates the sharing of costs for the property-related services, which is by necessity an approximation of reality. Only the costs allocated to residential properties are used in the municipal finance impact calculations since no increase in the number of non-residential properties, other than OWMC facilities, is anticipated.

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* As stated previously, joint services to residential property include services used by the residents of residential property.

** This method has been referred to as the proportional valuation method. See Robert W. Burchell and David Listokin, The Fiscal Impact Handbook, The Center for Urban Policy Research, 1984.

Calculation of costs directly attributable to OWMC

For this report, it is assumed that OWMC facilities would increase municipal operating costs in two ways: (1) through the demand for services for the facilities themselves; and (2) through the increased number of households in the area and regional municipality attributed to the facilities. The increased operating costs associated directly with OWMC facilities include general government, protection to people and property, roads, health and planning and development.

Explicit estimates are made of the increase in municipal costs for each category of joint services to people and property which will accrue from the presence of OWMC facilities. These are based on an analysis of OWMC's requirements together with the nature of the expected responses of the candidate municipalities to these specific requirements.*

Calculation of costs indirectly attributable to OWMC

OWMC facilities will result in a number of households being added to the candidate municipalities either through in-migration or from within the existing population (e.g., a previously unemployed younger person who lived with his parents moves into his own apartment).** The increased operating costs associated with this increase in households include all services to people and a pro rata share of joint services to people and property.

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* See Appendix C for estimates of the direct and indirect municipal costs of OWMC facilities.

** There is insufficient information regarding the potential out-migration of population and households due to the location of OWMC facilities. The potential for out-migration is included in the sensitivity analysis undertaken in Chapter 6. Also, this possibility should be examined in greater detail in Phase 4B of the site selection process.

The total costs of services to people and for residential property's pro rata share of the total costs of joint services are expressed on a household basis by dividing these costs by the total number of households in the candidate municipality.

Since it is assumed that the indirect and induced employment attributable to OWMC facilities will be accommodated within existing buildings, no allowance is made for costs associated with this employment (nor are revenues allocated to this additional employment).

Real property assessment

The net increase in real property assessment resulting from OWMC facilities is the biggest element on the revenue side of the municipal finance impact analysis. The change in the value of real property assessment in any of the candidate municipalities is the net of the following:

Additional Assessment

- The direct assessment of OWMC facilities; and
- Residential assessment indirectly generated by the OWMC facilities

Reduced Assessment

- Structures removed from the siting option; and
- Negative property value impacts in the site vicinity of the siting option

Payments-in-lieu paid by OWMC

Municipalities cannot levy property and business taxes on OWMC since OWMC is a Crown Agency of the Provincial Government. Rather than pay property and business taxes, Crown Agencies generally make payments-in-lieu of taxes to the affected municipalities.

Payments-in-lieu of property tax paid by OWMC. The Municipal Tax Assistance Act provides for payments-in-lieu of property taxes on many Provincial properties including property owned by Crown Agencies. Payments are based on the mill rate applied to new commercial and industrial property. It is customary for a Crown Agency such as OWMC to make its payments-in-lieu of property taxes to the municipality where its property is located.

Business taxes paid by OWMC. The rate of business tax applicable depends on the nature of the business activity. While the applicable rate cannot be determined exactly at this time, a rate equivalent to 30 percent of the assessed value of the facilities property appears most appropriate, according to the Ministry of Revenue.* This is also the rate paid by the Ministry of Energy on sewage treatment plants it owns and operates.

Therefore, for purposes of the municipal finance impact analysis it is assumed: (1) that OWMC will make payments-in-lieu of property taxes on the assessed value of its real property equivalent to the taxes that would be paid by the private sector to both area and regional municipalities; and (2) that OWMC will make payments-in-lieu of business taxes equivalent to 30 percent of the assessed value of its real property.

Unconditional grants from the Provincial Government

The Provincial Government provides financial assistance to municipalities in two basic forms: conditional grants and unconditional

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* Under The Assessment Act, special types of businesses together with their applicable tax rates are specified. For types of businesses not mentioned in the Act, the applicable rate, as specified by the Ministry of Revenue, is 30 percent. The OWMC facilities would appear to fall in this latter category.

grants. Conditional grants are earmarked for a specific purpose, while unconditional grants may be used for any municipal purpose. Conditional grants are not explicitly considered in the municipal finance impact analysis as they are netted against operating costs in the base data. The implications of this are easily illustrated. If, for example, the Province provides grants equivalent to 50 percent of road maintenance costs, then the net impact of an additional $100 in road costs on a municipality's finances is only $50.

The terms and conditions for unconditional grants changed substantially between 1983 and 1985. Consequently, for the impact analysis, it is assumed that the terms and conditions as they exist in 1985 applied in 1983. For 1985, the Province guaranteed that the total unconditional grants received by a municipality would be at least two percent greater than the total grants received in 1984. This guarantee was not made prior to 1985. The Province also changed from a per capita base to a per household base in its conditional and unconditional grant calculations. This should not affect the municipal finance impact analysis.

Miscellaneous revenue sources

In Chapter 3, Tables 8 and 13 show that the candidate area municipalities in 1983 obtained between 15 and 23 percent of their current revenues from sources other than property taxes, grants from the Province and sewer and water charges. Candidate regional municipalities obtained between 9 and 12 percent of their revenues from these sources.

These revenues encompass an assortment of smaller revenue sources including fees, service charges and investment income. Their exclusion from the analysis is not anticipated to affect the relative ranking of the siting options from the perspective of the municipal finance factor.

Exclusion of school boards

While school boards will also be affected by the new households generated by OWMC facilities, they have not been considered in this analysis. The reason for this is twofold. First, the Ontario education grant structure is such that much of any negative impact on school boards which might be due indirectly to projects such as OWMC would be offset by higher Provincial grants and, conversely, any positive impacts could result in lower Provincial grants. Second, existing schools in the vicinity of the sites appear to have sufficient capacity to accommodate the expected increase in the number of students in all candidate municipalities. Consequently, it does not appear likely that the impact of OWMC facilities on school boards will vary significantly by siting option.

No special mitigating measures

For the initial site selection analysis, it is assumed that none of the municipalities negotiate special financial mitigation measures with OWMC.

2.4 DATA COLLECTION AND ANALYSIS

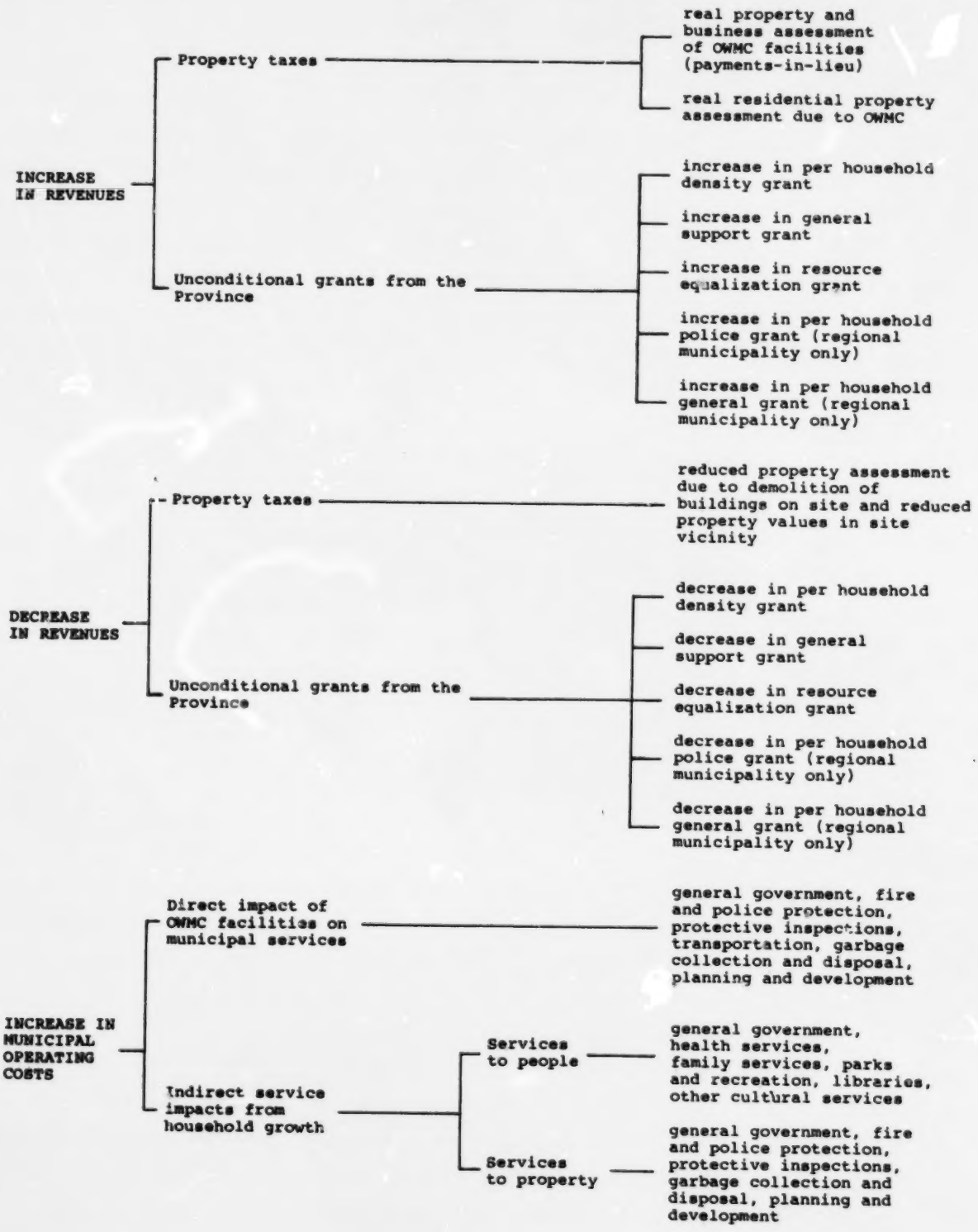
The purpose of this section is to present the data and introduce the methodology used in the analysis of municipal finance impacts.

2.4.1 THE MUNICIPAL FINANCE IMPACT MODEL

The bulk of the municipal finance impact analysis was undertaken through a municipal finance impact model developed by Clayton Research Associates specifically for this analysis. The general schema of the municipal finance impact model is depicted in Figure 4. The features of this model are as follows:

FIGURE 4

GENERALIZED SCHEMA OF MUNICIPAL FINANCE IMPACT MODEL


INCREASE IN REVENUES
Property taxes
real property and business assessment of OWMC facilities (payments-in-lieu)
real residential property assessment due to OWMC
Unconditional grants from the Province
increase in per household density grant
increase in general support grant
increase in resource equalization grant
increase in per household police grant (regional municipality only)
increase in per household general grant (regional municipality only)
DECREASE IN REVENUES
Property taxes
reduced property assessment due to demolition of buildings on site and reduced property values in site vicinity
Unconditional grants from the Province
decrease in per household density grant
decrease in general support grant
decrease in resource equalization grant
decrease in per household police grant (regional municipality only)
decrease in per household general grant (regional municipality only)
INCREASE IN MUNICIPAL OPERATING COSTS
Direct impact of OWMC facilities on municipal services
general government, fire and police protection, protective inspections, transportation, garbage collection and disposal, planning and development
Indirect service impacts from household growth
Services to people
general government, health services, family services, parks and recreation, libraries, other cultural services
Services to property
general government, fire and police protection, protective inspections, garbage collection and disposal, planning and development

- Candidate area and regional municipalities are considered separately;
- School boards are not incorporated;
- The financial transactions of municipal boards, commissions and agencies which are consolidated in the published municipal finance statistics are incorporated;
- There is an exclusive focus on impacts on the revenue fund of the municipalities;
- Revenue fund expenditures exclude a consideration of debt service costs;
- Capital fund transactions are not incorporated; and
- The measurement of impact is in terms of the change in revenues, the change in expenditures and the difference between the change in revenues and expenditures.

Structure

The model consists of three distinct modules: (1) increase in revenues; (2) decrease in revenues; and (3) increase in municipal operating costs. These modules are calculated separately for both the area and regional municipality of each siting option. As such, the modules represent sub-indicators of the two municipal finance impact indicators - net financial impact on area municipality and net financial impact on regional municipality (as shown on Table 2).

The increase in revenues sub-indicator includes increases in property tax assessment from OWMC facilities and from increases in

residential property assessment for households, as well as increases in unconditional grants from the Province. User fees, businesses assessment and conditional grants are excluded from the increase in revenue calculations for the reasons cited in section 2.3.5 of this chapter. The decrease in revenue calculations include reduced property assessment, both on-site as well as in the site vicinity, and decreases in unconditional grants. Increases in municipal operating costs are calculated separately for the direct impact of OWMC facilities on municipal services and for the indirect service impacts from an increase in households.

Like all impact models, the municipal finance impact model is an approximation of the real world. It does however incorporate all key variables of the municipal finance structure and the impacts of OWMC facilities on that structure.

A more complete description of the municipal finance impact model is contained in Appendix B.

2.4.2 DATA SUMMARY

The findings of the municipal finance impact analysis are summarized briefly here; the detailed data summary and analysis is provided in Appendix C. The data are presented in two sections, the municipal finance impacts OWMC facilities would have on candidate area municipalities and the municipal finance impacts the facilities would have on candidate regional municipalities.

Municipal finance impacts for area municipalities

Table 6 summarizes the overall impact that OWMC facilities would have on the revenues and operating costs of the candidate area municipalities. The values are expressed in terms of 1983 dollars.

TABLE 6

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	239.6	239.9	287.8	288.8	129.2	129.1
Property taxes from households indirectly generated by OWMC	8.0	7.2	27.7	29.8	16.3	16.3
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.3	-2.2	-3.6	-6.2	-3.7	-4.9
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	243.6	243.7	305.4	277.5	135.8	135.5
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	10.2	9.2	60.0	64.7	21.6	21.6
Total	82.2	79.2	137.0	141.7	100.6	100.6
Net Increase in Revenues Less Increase in Operating Costs ($000)	161.4	164.5	168.4	135.8	35.2	34.9
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	17.2	17.5	1.4	1.1	1.0	1.0

Source: Based on input assumptions described in Appendix C.

The net increase in revenues and the increase in municipal operating costs associated with OWMC facilities varies widely by the different siting options. These differences in revenues and costs reflect differences between the area municipalities rather than any major differences between the various siting options.

The largest net increase in revenues for candidate area municipalities is for the two siting options in Niagara Falls, followed by the two West Lincoln siting options. The two siting options in Milton have the lowest net revenue increases due to the much lower amount of payments-in-lieu from OWMC facilities.

The large increases in area municipal operating costs associated with the two Niagara Falls siting options largely negate the increased net revenue advantage these siting options have over the two West Lincoln siting options. The two Milton siting options also have relatively large increases in area municipal operating costs which almost negates the effect of any revenue increase.*

Municipal finance impacts for regional municipalities

Table 7 summarizes the overall impact of OWMC facilities on the revenues and operating costs of the candidate regional municipalities.

As was the case for the area municipalities, the differences in net revenues are explained more by differences between regional municipalities than by differences between siting options. The

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* These differences in area municipal finance impacts are discussed in the following chapter which covers the municipal finance environment.

TABLE 7

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	351.8	352.0	225.8	226.8	120.8	120.7
Property taxes from households indirectly generated by OWMC	12.6	14.3	16.2	17.5	20.2	20.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.2	-2.1	-2.3	-3.9	-2.5	-3.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	360.6	363.1	235.6	218.4	134.4	134.1
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	40.5	45.7	50.3	54.3	59.1	59.1
Total	168.5	166.7	135.3	139.3	167.1	177.1
Net Increase in Revenues Less Increase in Operating Costs ($000)	192.1	196.4	100.3	79.1	-32.7	-43.0

Source: Based on input assumptions described in Appendix C.

differences in increased municipal operating costs, however, vary significantly between siting options due to the varying costs associated with maintenance of access roads.

The two West Lincoln siting options generate by far the largest net increase in regional municipal revenues, followed by the two siting options in Niagara Falls. The two siting options in Milton generate considerably less net revenue for the regional municipality than do the other siting options, again due to the much lower level of payments-in-lieu.

The increase in regional municipal operating costs associated with OWMC facilities are somewhat higher for the West Lincoln and Milton siting options than for the Niagara Falls siting options due to the higher transportation costs of their access roads.

As before, the municipal finance environment of both candidate regional municipalities are described in detail in the following chapter. The effect of differences in their municipal finance environments on increases and decreases in revenues and increases in municipal operating costs is also discussed.

CHAPTER 3
THE MUNICIPAL FINANCE ENVIRONMENT

3.1 PURPOSE

This chapter highlights the salient financial characteristics of the municipalities where siting options for OWMC facilities have been chosen. The financial characteristics of the candidate municipalities, as discussed in Chapter 2, largely explain the difference in the municipal finance impacts between siting options. In this chapter, this explanation is expanded following an overview of municipal revenues and expenditures. The information presented includes current revenues and expenditures in both area and regional municipalities, their capital spending, sources of funding and their debt situation. The data presented relate to the year 1983 which, due to data availability, is the base year for the municipal finance impact analysis.

Financial characteristics are presented for:

- Region of Niagara - West Lincoln (siting options LF-3C and LF-9C).
  - Niagara Falls (siting options LF-1E and LF-1E/PI-27E).
- Region of Halton - Milton (siting options LF-4N/PI-1N and LF-4N/PI-13N).

3.2 GENERAL GOVERNMENT STRUCTURE AND SERVICES

3.2.1 AREA MUNICIPALITIES

The specific services provided by the three candidate area municipalities are the following:*

Niagara Falls, West Lincoln and Milton

- general government
- fire protection
- local streets and sidewalks
- land drainage including storm sewers
- solid waste collection
- parks and recreation
- cemeteries
- building inspection and permits
- local planning

Niagara Falls and Milton

- local transit
- homes for the aged

Niagara Falls and West Lincoln

- sanitary sewer and water service (shared with Region)
- solid waste disposal

The council and staff of these local municipalities are directly responsible for all these services with the exception of the

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* Appendix C provides details of these services.

responsibilities delegated to the following: the public library board (in all three municipalities); the Board of Management of the Milton Downtown Improvement Area; and in Niagara Falls, the transit commission and the waterworks operation.

3.2.2 REGIONAL MUNICIPALITIES

The primary services provided by the two regional municipalities are as follows:

Niagara and Halton	Halton Only
- general government	- solid waste disposal
- police protection	- regional parks
- regional roads	
- sanitary sewer and water service	
- health services	
- social and family services	
- industrial development and promotion	
- regional planning	

There is a jurisdictional division of trunk and local systems for sanitary sewers and water between the Region of Niagara and the City of Niagara Falls: the City purchases treated water from the Region and delivers it through its own pipes to its citizens; and the City owns and maintains the local water and sanitary sewer system while the Region maintains and builds both the trunk mains and the water treatment and pollution control facilities. In Halton, sanitary sewer and water services are the exclusive responsibility of the Region.

Both regional municipalities have established a number of separate boards and commissions including police, sewer and waterworks

and health. In addition, Halton has a separate body with responsibility for homes for the aged.

3.2.3 OTHER CONSIDERATIONS

Education is the direct responsibility of regional school boards: there is one board for the public system and one for the separate system in each regional municipality. School boards are autonomous of both area and regional municipalities. For the reasons noted in Chapter 2 (page 35), school boards are not incorporated into the Phase 4A site selection process.

The area municipalities levy and collect property taxes on behalf of both the regional municipalities and the school boards. This is purely a collection function.

3.3 AREA MUNICIPAL FINANCE AND SERVICES*

3.3.1 AREA MUNICIPALITY CURRENT REVENUES**

Property taxation was the prime source of revenue for two of the candidate area municipalities for 1983, the base year for the municipal finance impact analysis. The exception was the rural

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* The financial data include the consolidated results of many municipal boards, commissions and agencies. Exceptions include hydro commissions, hospital boards, conservation authorities, children's aid societies and housing authorities.

** Municipal accounts have two principal funds: (1) the revenue fund, which incorporates current revenues, operating expenditures and capital-related items such as debt charges and transfers to the capital fund; and (2) the capital fund, which incorporates expenditures that create or extend the useful life of municipal assets and the sources of funding of these expenditures (e.g., borrowing and transfers from the revenue fund).

TABLE 8

SOURCES OF AREA MUNICIPALITY REVENUES, 1983

Revenue Source	City of Niagara Falls	Township of West Lincoln	Town of Milton
	Percent		
Taxation			
Property Taxation	53.0	37.6	57.1
Payments-in-Lieu	8.0	0.8	3.4
Sub-Total	61.0	38.4	60.5
Provincial Grants			
Unconditional Grants	5.9	11.0	6.0
Conditional Grants	9.3	32.9	11.0
Sub-Total	15.2	43.9	17.0
Sewer and Water Charges	8.2	2.3	0.0
Other Revenues			
Fees and Service Charges	7.3	8.8	13.5
Miscellaneous	8.3	6.6	9.0
Sub-Total	15.6	15.4	22.5
Total	100.0	100.0	100.0
Total Area Revenues 1983 ($ Millions)	28.7	2.7	7.9

Source: Schedule 1, Financial Information Returns, 1983.

Township of West Lincoln where the largest proportion of revenues come from Provincial grants. Fees, service charges and other miscellaneous revenues were also somewhat important sources of revenue at the area municipality level (varying from about 15.5 percent of total revenue in West Lincoln and Niagara Falls to 22.5 percent in Milton) for 1983.

Property taxes

Municipal property tax revenues are derived by applying tax rates (called mill rates) to the assessed value of taxable real property located within the area municipality.*

Taxable real property consists of both land and buildings and is divided into two broad categories for taxation purposes: (a) residential and farm; and (b) commercial and industrial. Commercial and industrial real property is also subject to business tax assessment. The business tax is imposed on the occupants of com-

* A mill is equivalent to 1/10 of 1 cent of assessed property value. Thus, a mill rate of 50 on $10,000 taxable assessment raises $500 in taxes ($10,000 x 0.05).

mercial and industrial property. The business tax rate for most businesses is in the 30 to 60 percent range.

TABLE 9

AREA MUNICIPALITY TAXABLE ASSESSMENT BY COMPONENT, 1983

Component	City of Niagara Falls	Township of West Lincoln	Town of Milton
	Percent		
Residential and Farm	54.9	81.3	77.5
Commercial and Industrial*	45.1	18.7	22.5
Total	100.0	100.0	100.0

* Includes business assessment.

Source: Schedule 2LT, Financial Information Returns, 1983.

Residential and farm properties are by far the largest component of taxable assessment in West Lincoln and Milton (more than 75 percent for each in 1983). Commercial, industrial and business assessment forms a large component of taxable assessment in the City of Niagara Falls (about 45 percent for 1983).

Whereas real property assessment is based on market value throughout the province, the three candidate area municipalities are in fact on different assessment bases: properties in West Lincoln are assessed on a 1940 base, properties in Niagara Falls are assessed on a 1982 base and a 1980 base is utilized in Milton.*

Municipal property taxes would be affected by the location of OWMC facilities in any candidate area municipality, and as such, this revenue source is important in determining the municipal finance impact of these facilities.

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* Milton was reassessed under Section 63 of The Assessment Act where assessment inequities were reduced within the same class of property (i.e., industrial property) but not between property classes (so that the total municipal tax attributable to industrial property did not change).

Ontario unconditional grants

TABLE 10

AREA MUNICIPALITY UNCONDITIONAL GRANT REVENUES FROM THE ONTARIO GOVERNMENT, 1983

Grant Programs	City of Niagara Falls	Township of West Lincoln	Town of Milton
		Percent	
Per Capita Density	8.4	16.6	31.2
Resource Equalization	15.4	58.7	10.4
General Support	76.2	24.7	58.4
Total	100.0	100.0	100.0
Total Unconditonal Grants 1983 ($ Millions)	1.7	0.3	0.5

Source: Schedule 1, Financial Information Returns, 1983.

Unconditional grants are grants which may be used for virtually any purpose by a municipality. These grants are calculated using various bases including total population, total own-purpose revenues raised and equalized assessment per household. In all the candidate area municipalities, revenues from unconditional grants were less than revenues from conditional grants for 1983.

Area municipalities can qualify for three unconditional grants from the Province: the General Support Grant, the Resource Equalization Grant and the Per Capita (Household) Density Grant.* The General Support Grant is an amount equivalent to a certain percentage of the municipality's previous year's own purpose revenues. The Resource Equalization Grant is designed to reinforce the fiscal capacity of any municipality with a below average per capita (household) equalized assessment base. The Per Capita Density Grant is an amount paid per capita (household) which varies inversely with the density (households per hectare) of the municipality.

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* In 1984, all per capita grants were converted to a per household base. These grants consist of per household grants (general, police and density), Resource Equalization Grants, General Support Grants and Special Support Grants. The reference to these grants in the text is often to their more recognizable name which incorporates the words "per capita". For the 1983 municipal finance impact analysis, the calculation of these grants was based on households.

The General Support Grant was the largest source of unconditional grant revenue for Niagara Falls and Milton for 1983 while in West Lincoln, the Resource Equalization Grant was most important because West Lincoln has a low per capita equalized assessment in relation to the province as a whole.* Of the three area municipalities, only West Lincoln had a substantially lower per capita equalized assessment than the provincial standard - $15,484 versus $20,000 per capita for purposes of calculating 1983 Resource Equalization Grant revenues. Niagara Falls at $19,706 was only marginally below the provincial standard while Milton at $20,286 was slightly higher.

While unconditional grants normally vary in response to household growth (population growth prior to 1984) and increases in payments-in-lieu, the Province since 1984 has guaranteed that unconditional grant revenues would increase by a prescribed amount for every area and regional municipality. In 1984, the guaranteed revenue increase was 2.5 percent; in 1985, this fell to 2.0 percent. This revenue guarantee on unconditional grants effectively removes the possibility of any negative net financial impact of OWMC facilities arising out of changes in these grant entitlements. Conversely, any positive effects of OWMC facilities on unconditional grants would also be effectively removed. As long as this policy of guaranteeing minimum increases in unconditional grants is maintained, the location of OWMC facilities in a candidate municipality should have little effect on its unconditional grant revenues.

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* In general, the lower the per capita (or now per household) equalized assessment compared to the Provincial standard, the larger the amount of grant revenue. However, there is a ceiling and a floor placed on the amount of revenue a municipality can receive compared to the amount received in the previous year.

Ontario conditional grants

TABLE 11

AREA MUNICIPALITY CONDITIONAL GRANT REVENUES FROM THE ONTARIO GOVERNMENT, 1983

Grant Type	City of Niagara Falls	Township of West Lincoln	Town of Milton
	Percent		
Transportation Services	86.4	96.7	82.4
Recreation and Cultural Services	9.8	3.2	8.4
Other Services	3.8	0.1	9.2
Total	100.0	100.0	100.0
Total Conditional Grants 1983 ($ Millions)	2.3	0.9	0.9

Source: Schedule 3, Financial Information Returns, 1983.

In the three candidate area municipalities, most conditional grant revenue from the Province for 1983 was designed to support transportation services (e.g., road, bridge and culvert maintenance and repairs). Depending on the nature of the work and on the financial capacity of the respective municipality, the Ministry of Transportation and Communications provides grants of 50 to 100 percent for approved work.

Provincial cost-sharing of municipal projects which may be required due to OWMC facilities and which are eligible for conditional grants is netted from the revenues and costs in the municipal finance analysis; only municipal costs are considered.

3.3.2 AREA MUNICIPALITY CURRENT EXPENDITURES

TABLE 12

AREA MUNICIPALITY EXPENDITURES BY TYPE, 1983

Expenditure Type	City of Niagara Falls	Township of West Lincoln	Town of Milton
	Percent		
General Government	11.0	18.2	22.4
Protection to Persons and Property	17.6	5.4	9.5
Transportation Services	30.3	55.0	36.0
Environmental Services	18.0	9.0	7.0
Health Services	3.0	0.6	0.0
Social and Family Services	0.7	0.0	0.0
Recreational and Cultural Services	15.9	8.4	22.3
Planning and Development	3.5	3.4	2.8
	100.0	100.0	100.0
Total Area Expenditures 1983 ($ Millions)	28.7	2.6	8.2

Source: Schedule 4, Financial Information Returns, 1983.

The single largest expenditure component in all three candidate area municipalities consists of transportation services. In West Lincoln, transportation services accounted for over half the expenditures for 1983 (the figure was closer to one-third in Milton and Niagara Falls) since this Township has a

substantial rural road and bridge network to maintain.

Recreational and cultural and general government services were the second most important expenditure categories in Milton while environmental services (e.g., sewer and water) in Niagara Falls and general government in West Lincoln are the second most important areas of expenditures in these municipalities. In the most urbanized candidate area municipality, Niagara Falls, fire protection is also an important budget item in contrast with the other two municipalities. Niagara Falls maintains a full-time fire-fighting force whereas Milton and West Lincoln rely heavily or entirely on volunteers.

3.3.3 LONG-TERM DEBT

At the end of 1983, West Lincoln had an outstanding debt of $0.4 million, Milton had a debt of $3.5 million while Niagara Falls recorded an outstanding debt amounting to $9.7 million.

Between three and eight percent of total revenues in the candidate area municipalities was devoted to debt servicing in 1983. The debt burden was the lowest in West Lincoln (2.9 percent of 1983 revenues). Since the Ontario Municipal Board considers that municipalities should not commit more than 20 percent of their own purpose expenditures to capital outlays, all three municipalities were well within their permitted debt capacity for 1983.*

The debt burden of area municipalities should not be affected by the municipal finance impact of OWMC facilities. Therefore, mu-

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* Ontario Municipal Board, The Role of the Ontario Municipal Board with Respect to Undertakings Involving Long-Term Debt Commitments by Ontario Municipalities and School Boards, 1983.

nicipal long-term debt does not enter into the calculations in this report for determining municipal financial impact, except in the sensitivity analysis in Chapter 6.

3.4 REGIONAL MUNICIPAL FINANCE AND SERVICES*

3.4.1 REGIONAL MUNICIPALITY CURRENT REVENUES*

Regional municipalities obtain current revenues from a number of sources, the most important of which are taxation of real property, grants from the Provincial Government and sewer and water user charges. Other sources of revenue, including Federal Government grants, licence and permit fees, fines, investment income and proceeds from the sale of properties play a relatively smaller role in regional government finance.

TABLE 13

SOURCES OF REGIONAL MUNICIPALITY REVENUES, 1983

Revenue Source	Region of Niagara	Region of Halton
	Percent	
Property Taxation	29.7	29.7
Provincial Grants		
Unconditional Grants	15.1	12.4
Conditional Grants	26.3	17.7
Sub-Total	41.4	30.1
Sewer and Water Charges	19.1	28.3
Other Revenues	9.8	11.9
Total	100.0	100.0
Total Regional Revenues 1983 ($ Millions)	129.1	82.4

Source: Schedule 1, Financial Information Returns, 1983.

Both candidate regional municipalities received about 30 percent of their total revenues from property taxes in 1983, the base year for the municipal finance impact analysis. Provincial grants were a much more important revenue source in Niagara than in Halton (accounting for approximately 41 percent of total revenues in Niagara versus 30 percent in Halton). Conversely, sewer and water charges were a relatively

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* Refer to footnotes on page 46.

larger revenue source in Halton (about 28 percent versus 19 percent for Niagara).

These differences largely reflect the fact that the Region of Niagara shares responsibility for sewer and water services with the area municipalities.

All other revenue sources accounted for 10 to 12 percent of total revenues in 1983.

Property taxes

Regional municipalities obtain property tax revenues through a requisition (levy) on their area municipalities which collect the tax on behalf of the region. The regional requisition is apportioned among the area municipalities according to their proportional share of total weighted equalized assessment in the region.

Equalized assessment. Prior to arriving at the assessment base for regional purposes, the residential and farm assessment in each area municipality is discounted and equalized by the Provincial Ministry of Municipal Affairs.* The assessment is equalized to achieve a common basis between the municipalities. This total equalized assessment includes taxable properties as well as an equivalent assessment based on payments-in-lieu of taxes by Federal and Provincial Governments and telephone and telegraph tax payments.**

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* The discounting is necessary because commercial and industrial property is generally assessed closer to its market value than is residential and farm property.

** Municipalities receive a share of a tax on gross receipts of telephone and telegraph companies conducting business in Ontario.

Regional levy. On the basis of this total equalized assessment, each area municipality's share of the total regional property tax requirement is determined and then requisitioned through the regional levy.

In the Region of Niagara, approximately 22 percent of the regional property tax revenues for 1983 was collected from the City of Niagara Falls. West Lincoln's share of regional taxes was 2.4 percent for that year. In the Region of Halton, the Town of Milton's share of the regional levy was 11 percent.

The impact of OWMC facilities on the area municipality's share of regional property taxes is significant and therefore is important to the calculation of municipal finance impacts.

Ontario unconditional grants

TABLE 14

REGIONAL MUNICIPALITY UNCONDITIONAL GRANT REVENUES FROM THE ONTARIO GOVERNMENT, 1983

Grant Program	Region of Niagara	Region of Halton
	Percent	
Per Capita General	20.9	27.5
Per Capita Police	32.3	42.5
General Support	19.2	24.6
Resource Equalization	24.7	5.4
Other	2.9	0.0
Total	100.0	100.0
Total Unconditional Grants 1983 ($ Millions)	19.5	10.2

Source: Schedule 1, Financial Information Returns, 1983.

The most important unconditional grant for both Niagara and Halton in 1983 was the Per Capita (now Per Household) Police Grant.* Revenue provided under this grant was an amount equivalent to the population of the region times $17.

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* In 1984, all per capita grants were converted to a per household base. These grants consist of per household grants (general, police and density), Resource Equalization Grants, General Support Grants and Special Support Grants. The reference to these grants in the text is often to their more recognizable name which incorporates the words "per capita". For the 1983 municipal finance impact analysis, the calculation of these grants was based on households.

Other significant unconditional grants in Halton were the Per Capita General Grant (an amount based on $11 per resident for 1983) and the General Support Grant (for 1983, an amount equivalent to 5.75 percent of the municipality's previous year's own purpose revenues).*

An unconditional grant that is particularly significant in Niagara is the Resource Equalization Grant (for 1983, this grant provided one-quarter of the Region's total unconditional grant revenues). As noted previously, this grant is designed to reinforce the fiscal capacity of any area municipality with a below average per capita equalized assessment base and most of the area municipalities in the Region of Niagara and two of the four in the Region of Halton (Milton and Halton Hills) qualify for at least nominal revenue from this grant.** A portion of the grant revenue allocated to an area municipality is paid directly to the regional municipality by the Province.

As indicated on page 50, as long as the Province guarantees a minimum revenue increase each year on unconditional grants, municipal revenues (either area or regional) arising from these grants should not be impacted by OWMC facilities.

Ontario conditional grants

As noted previously, revenues from conditional grants must be used for specific purposes.

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* Actually, 5.75 percent of the net general dollar levy which is defined as the total of taxes, sewer and water billings, payments-in-lieu of taxes, special charges, the Resource Equalization Grant and various general and special support grants to the extent applicable.

** See pages 49-50 for a more detailed discussion of this grant with respect to the area municipalities.

TABLE 15

REGIONAL MUNICIPALITY CONDITIONAL GRANT REVENUES FROM THE ONTARIO GOVERNMENT, 1983

Grant Type	Region of Niagara	Region of Halton
	Percent	
Social and Family Services	75.8	56.6
Health Services	9.0	35.2
Transportation Services	14.6	5.9
Other Services	0.6	2.3
Total	100.0	100.0
Total Conditional Grants 1983 ($ Millions)	34.0	14.6

Source: Schedule 3, Financial Information Returns, 1983.

Approximately three-quarters of the conditional grant revenues received by the Region of Niagara in 1983 was for social and family services. The Region of Halton also received substantial conditional grant revenues for both social and family services and health services.

As was the case for the area municipalities, any changes in conditional grants to candidate regional municipalities from OWMC facilities are dealt with in the cost analysis net of conditional grant revenues.

Sewer and water charges

In both regions, the sewage and water systems are fully self-sustaining. Revenues are raised through the application of a charge paid by the users which is calculated to recover costs attributable to both current and capital operations. In Halton, water and sewer charges are directly billed to users by the Region. In Niagara, because sewer and water revenues are raised through requisitions on the area municipalities, the Region receives the revenues from the area municipalities which in turn bill the users.

In the previous chapter, under the discussion of assumptions, sewer and water charges are excluded from the municipal finance impact analysis because they are costed on a user pay basis. Therefore, while municipal revenues from increased sewer and water user charges may rise as a result of increased development due to OWMC facilities, this increase would pay for increased operating and

capital costs. It is also assumed that OWMC will bear any capital costs if sewer and water services have to be expanded due to the demands from OWMC facilities (see Chapter 2).

3.4.2 REGIONAL MUNICIPALITY CURRENT EXPENDITURES*

TABLE 16

REGIONAL MUNICIPALITY EXPENDITURES BY TYPE, 1983

Expenditure Type	Region of Niagara	Region of Halton
	Percent	
General Government	6.9	7.5
Protection to Persons and Property	24.4	22.9
Transportation Services	10.4	5.6
Environmental Services	21.8	36.6
Health Services	3.6	8.2
Social and Family Services	31.8	17.1
Recreational and Cultural Services	0.2	0.5
Planning and Development	0.9	1.6
Total	100.0	100.0
Total Regional Expenditures 1983 ($ Millions)	129.7	82.4

Source: Schedule 4, Financial Information Returns, 1983.

Over three-quarters of the expenditures in Niagara and Halton for 1983 were for protection to persons and property (primarily police services), environmental services (basically sewer and water) and social and family services (largely social assistance). Halton spent comparatively more of its total budget on environmental services but less on social and family services than did Niagara. The lower proportionate spending in Halton on social and family services (i.e., welfare and homes for the aged) is due to the lower levels of unemployment in this region and the relatively youthful age structure of the residents compared to Niagara. The relatively lower degree of environmental services spending by Niagara is largely due to the sharing of sewer and water services with the area municipalities and the fact that Halton is responsible for solid waste disposal.

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* Current expenditures include salaries and benefits, debt charges, the purchase of supplies and services (including rents) and contributions to the capital fund, reserves and reserve funds.

3.4.3 LONG-TERM DEBT

TABLE 17

REGIONAL MUNICIPALITY LONG-TERM DEBT* BY PURPOSE, DECEMBER 31, 1983

Debt Purpose	Region of Niagara	Region of Halton
	Percent	
Sanitary Sewer	48.4	54.2
Waterworks	36.5	32.0
Other Purposes	15.1	13.8
Total	100.0	100.0
Total Regional Debt 1983 ($ Millions)	99.6	67.1

* All debt less the debt assumed by others and the balances of sinking funds.

Source: Schedule 7, Financial Information Returns, 1983.

At the end of 1983, total long-term debt in the Regions of Niagara and Halton amounted to $99.6 million and $67.1 million, respectively. Since the majority of this debt is recoverable from services financed through user fees, it can be categorized as self-liquidating.

During 1983, the Region of Niagara spent 14.3 percent of its total annual revenues and the Region of Halton spent 15.1 percent of its revenues to service this long-term debt. As was the case for the area municipalities, both regions were well within the debt servicing level established by the Ontario Municipal Board.

The long-term debt of the regional municipalities does not enter into the calculation of the municipal finance impact of OWMC facilities, except in the sensitivity analysis in Chapter 6.

3.5 THE MUNICIPAL FINANCE ENVIRONMENT AND THE COMPARATIVE EVALUATION APPROACH

A summary of the impact of OWMC facilities on the revenues and operating costs of the candidate area and regional municipalities was provided in Tables 6 and 7. These data were not divided into detailed municipal revenues and costs. The summary of the municipal finance environment presented in this chapter now permits a more detailed comparison of siting options by the area and regional municipal revenues and costs. These detailed estimates are presented in Appendix C. In this section, actual estimates are not

provided, but rather a more qualitative summary of the individual revenue and cost impacts is presented.

Tables 18 through 21 summarize the estimated impact of OWMC facilities on the sources of municipal revenues and on municipal operating costs by type. The relative strength of the specific impact on siting options in these Tables is indicated by pluses and minuses rather than absolute dollars. A comparison of the relative strength of financial impacts can be made across each row for each revenue and cost impact (but not down the columns for each siting option) with these Tables. A very strong relative positive impact is indicated by ++++, a weak relative positive impact by +. The same designation applies for negative impacts. Table 18 shows the impact of OWMC facilities on sources of area municipal revenues. Table 19 provides the same information for regional municipalities. Tables 20 and 21 present the impacts of OWMC facilities on area and regional municipal operating costs by type, respectively.

The analysis that follows is organized by siting option and area municipality. In all cases, the difference in municipal finance impacts between siting options within a candidate area municipality is small and therefore, to avoid redundancy, siting options are discussed by their area municipality.

3.5.1 SITING OPTIONS LF-3C AND LF-9C, WEST LINCOLN

West Lincoln can be characterized as rural in nature and in economic base with its high dependency on agriculture. West Lincoln provides the lowest degree of area municipal services among the candidate municipalities. As a consequence, municipal property and business mill rates are also lowest in this municipality.

Tables 18 to 21 show the expected relative municipal finance impacts of OWMC facilities on West Lincoln and the Region of Niag-

TABLE 18

IMPACT OF OWMC FACILITIES (DIRECT AND INDIRECT)*
ON SOURCES OF AREA MUNICIPAL REVENUES**

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Property Taxation						
- residential	+	+	++++	++++	++	++
- farm	--	--	---	----	---	---
- commercial & industrial	-	0	--	----	0	0
Total	+	+	++++	--	++	++
Payments-in-Lieu	+++	+++	++++	++++	++	++
Ontario Unconditional Grants						
Without revenue guarantee						
- per household density grant	+++	+++	++	++	+++	+++
- general support grant	+++	+++	++++	++++	++	++
- resource equalization grant	-	-	0	0	0	0
With revenue guarantee	0	0	0	0	0	0
Ontario Conditional Grants	0	0	0	0	0	0

* Direct impacts include municipal revenues and costs associated with OWMC facilities. Indirect impacts include municipal revenues and costs associated with household growth.

** A very strong relative positive impact is denoted by ++++, a weak relative positive impact by +. Minus signs denote negative impacts. A nil impact is denoted by 0.

TABLE 19

IMPACT OF OWMC FACILITIES (DIRECT AND INDIRECT)*
ON SOURCES OF REGIONAL MUNICIPAL REVENUES**

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Property Taxation						
- residential	++	+++	+++	++++	++++	++++
- farm	---	---	---	----	---	---
- commercial & industrial	-	0	-	----	0	0
Total	+++	+++	+++	++	++++	++++
Payments-in-Lieu	++++	++++	+++	+++	++	++
Ontario Unconditional Grants						
Without revenue guarantee						
- per household police grant	+++	+++	++++	++++	++++	++++
- per household general grant	+++	+++	++++	++++	++++	++++
- general support grant	++++	++++	++	++	+	+
- resource equalization grant	-	-	0	0	0	0
With revenue guarantee	0	0	0	0	0	0
Ontario Conditional Grants	0	0	0	0	0	0

* Direct impacts include municipal revenues and costs associated with OWMC facilities. Indirect impacts include municipal revenues and costs associated with household growth.

** A very strong relative positive impact is denoted by ++++, a weak relative positive impact by +. Minus signs denote negative impacts. A nil impact is denoted by 0.

TABLE 20

IMPACT OF OWMC FACILITIES (DIRECT AND INDIRECT)*
ON AREA MUNICIPAL OPERATING COSTS**

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Services to People						
- health and family	-	-	----	----	0	0
- recreational and cultural	-	-	----	----	--	--
Total	-	-	----	----	--	--
Services to People and Property						
- general government	---	---	----	----	---	---
- protection	-	-	----	----	--	--
- transportation	--	--	----	----	---	---
- planning and development	---	---	----	----	---	---
- garbage collection	-	-	----	----	--	--
Total	--	--	----	----	---	---

* Direct impacts include municipal revenues and costs associated with OWMC facilities. Indirect impacts include municipal revenues and costs associated with household growth.

** A very strong relative negative impact is denoted by ----, a weak relative negative impact by -. A nil impact is denoted by 0.

TABLE 21

IMPACT OF OWMC FACILITIES (DIRECT AND INDIRECT)*
ON REGIONAL MUNICIPAL OPERATING COSTS**

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Services to People						
- health and family	----	----	----	----	---	---
- recreational and cultural	--	--	--	--	---	---
Total	---	----	----	----	---	---
Services to People and Property						
- general government	---	---	----	----	----	----
- protection	----	----	----	----	---	---
- transportation	----	----	--	--	---	---
- planning and development	---	---	---	---	---	---
- garbage collection	0	0	0	0	---	---
Total	----	----	---	---	---	---

* Direct impacts include municipal revenues and costs associated with OWMC facilities. Indirect impacts include municipal revenues and costs associated with household growth.

** A very strong relative negative impact is denoted by ----, a weak relative negative impact by -. A nil impact is denoted by 0.

ara. Some of the important elements in the estimation of municipal finance impacts include:

- The relative impact on area and regional municipal property taxes is lower in West Lincoln than in Niagara Falls (except for siting option LF-1E/PI-27E which has a negative impact on property values) or Milton. This is explained by the lower number of households which are generated as a result of locating OWMC facilities on these siting options as well as the lower level of property taxation (which lessens the municipal finance impact of any change).

- Payments-in-lieu of taxes made by OWMC to West Lincoln will have a significant relative and absolute impact. The payments-in-lieu to the Region of Niagara are particularly significant, relative to the other candidate municipalities, due to the high regional effective tax rate in West Lincoln.

- The absolute impact of unconditional grants (without revenue guarantees) to area and regional municipalities is very small. The area and regional Resource Equalization Grant is expected to be negatively impacted by OWMC facilities. All other unconditional grants will increase, but the difference between the increase in West Lincoln and the other candidate municipalities is not large. With revenue guarantees on these unconditional grants, the impact on all area and regional municipalities is expected to be nil.

- The relative and absolute impact of OWMC facilities on area municipal operating costs are expected to be the lowest in West Lincoln of all candidate area municipalities, largely due to the much lower level of area municipal services.

- The relative impact of OWMC facilities on regional transportation costs will be significant in West Lincoln because of the length of the access road to the two siting options.

3.5.2 SITING OPTIONS LF-1E AND LF-1E/PI-27E, NIAGARA FALLS

The two OWMC siting options in Niagara Falls are located on the urban fringe, within view of existing industry. The siting options presently have a mixture of rural residential and farm uses; siting option LF-1E also contains one industrial type use. Candidate site PI-27E is currently designated for industrial uses, while LF-1E is currently designated for agricultural uses.

Tables 18 to 21 show the expected relative municipal finance impacts of OWMC facilities on Niagara Falls and the Region of Niagara. Some of the important elements in the estimation of municipal finance impacts include:

- A large relative impact is anticipated on area municipal residential property tax revenues. This is explained by the relatively high area municipal tax rate and by the relatively large number of households expected to locate in Niagara Falls compared to other candidate area municipalities.

- The negative impact of siting option LF-1E/PI-27E on commercial/industrial and farm property values will be large, and will offset all increases in area municipal property tax revenues (except payments-in-lieu).

- The relative impact of total payments-in-lieu of taxes made by OWMC to Niagara Falls and the Region of Niagara will be less for these siting options than for the two siting options in West Lincoln. While relative payments-in-lieu to the area municipality will be higher because of a higher area municipal

tax rate, the total impact of OWMC facilities will be reduced somewhat by lower regional payments due to the lower regional tax rate in Niagara Falls.

- The absolute impact of unconditional grants will be quite small. With revenue guarantees, unconditional grants for all municipalities should not be impacted by OWMC facilities.

- The relative and absolute impact of OWMC facilities on area municipal operating costs will be greatest in Niagara Falls. This is due to the large number of municipal services provided in this municipality.

- The impact of the facilities on regional municipal operating costs is not expected to be as large as the impact on area municipal operating costs because the two siting options require only a short distance of regional road for access.

3.5.3 SITING OPTIONS LF-4N/PI-1N AND LF-4N/PI-13N, MILTON

Both siting options are located in the urban fringe area of Milton, where there is no industry and there is a mix of rural residential and farm dwellings. Both siting options are designated for agricultural uses in the Town's Official Plan.

Tables 18 to 21 show the relative municipal finance impacts of OWMC facilities on Milton and the Region of Halton. Some of the important elements in the evaluation of municipal finance impacts include:

- A relatively moderate impact on area municipal property tax revenues due to the lower area mill rate and the anticipated lower level of household growth in Milton.

- A relatively large impact on regional property tax revenues due to the high regional tax levy in Milton and the expected large number of households generated by the facilities in the Region of Halton.

- The impact of payments-in-lieu of taxes made by OWMC will be lower for the two siting options in Milton due to the differing method of assessment used in this municipality. This will be true for both the area and regional municipality.

- The change in Provincial unconditional grants as a result of OWMC facilities is expected to be nil with provincial revenue guarantees and very small without guarantees.

- The relative impact of OWMC facilities on area municipal operating costs will be higher in Milton than in West Lincoln, but lower than in Niagara Falls due to the average level of municipal services provided in Milton compared to these other municipalities.

- The relative impact of the facilities on regional municipal operating costs will be similar to the impact of the siting options in Niagara Falls but lower than the impact of the siting options in West Lincoln.

CHAPTER 4
BASIC ACCEPTABILITY

The basic acceptability analysis is performed by each site selection consultant to determine if any impacts have been identified which are severe enough to offset any other siting considerations.

As discussed in Chapter 2, the total net municipal finance impacts of OWMC facilities on the three area municipalities would be positive for each siting option. However, except for payments-in-lieu, the impact of these facilities on area municipal revenues would not be large. The negative impacts on operating costs are offset by revenue increases for all three area municipalities.

The Region of Halton would experience a negative net financial impact for both Milton siting options; but in comparison to the total regional municipality budget, the negative impact would be very small. The Region of Niagara would experience a small positive net financial impact from the location of OWMC facilities in either West Lincoln or Niagara Falls.

Since all net municipal finance impacts from OWMC facilities are either positive or negative and small in absolute terms, all of the candidate siting options meet basic acceptability criteria for this factor.

Following the completion of the basic acceptability analysis by all site selection consultants, a decision was made to drop site LF-2N in Mississauga from further consideration because the site

could not ensure the natural containment of the planned engineered landfill.*

The siting options evaluated in the comparative evaluation process of municipal finance impacts in the next chapter are:

LF-3C
LF-9C
LF-1E
LF-1E/PI-27E
LF-4N/PI-1N
LF-4N/PI-13N

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* For a more detailed discussion of this see M.M. Dillon, Site Selection Process Phase 4A: Selection of Preferred Site(s) - Interim Site Selection Report, Candidate Site LF-2N, 1985.

CHAPTER 5
COMPARATIVE EVALUATION PROCESS

5.1 PURPOSE

The purpose of this chapter is to provide a detailed comparative evaluation of the municipal finance impacts of the special waste treatment and disposal facilities proposed by the Ontario Waste Management Corporation on the six remaining siting options. The objective of this comparative evaluation process is to rank the siting options with respect to the municipal finance factor.

Previously, data have been presented on the municipal finance environment (both costs and revenues) of the three area municipalities and two regional municipalities which could be affected by the location of OWMC facilities. In this chapter, the data are documented and evaluated to determine differences in municipal finance impacts between siting options for the purpose of considering municipal finance as a factor in the overall site evaluation process. The chapter presents the differences in area and regional revenues and operating costs, both increases and decreases, which would occur as a result of the location of the special waste treatment and disposal facilities on each siting option. Potential impacts on municipal services beyond those identified in the municipal finance cost analysis are also identified.

A base year of 1983 is used for the comparison and evaluation of municipal finance impacts for alternative siting options. It is assumed in this analysis that OWMC facilities are in full operation in 1983. This base year was chosen because of the availability of data and the importance in both the site selection process and for public information of estimating the municipal finance impact of

OWMC facilities on the existing municipal finance base. Base data include tax assessment information, as well as information on revenues and expenditures of area and regional municipalities. Possible changes in future years to both the area and regional municipal economic bases, as well as changes to the municipal finance structures which could affect the measure of the impact, are noted and are introduced into the comparative evaluation process of municipal finance impact as more qualitative considerations.

The chapter is organized to first identify the six siting options under consideration. This is followed by a list of assumptions made during the analysis and the comparative evaluation process. The actual comparison and evaluation of municipal finance impacts by siting option involves a multi-stage process of identifying, screening, ranking and aggregation of factors, indicators and sub-indicators. The factors, indicators and sub-indicators used in this evaluation were identified in Chapter 2. The comparative evaluation process is undertaken by first screening the indicators and sub-indicators to determine their appropriateness for comparing and ranking siting options. Any modifications made to the indicators during the overall evaluation process are noted. Next, indicators are scaled by siting option, and then are ranked and aggregated. The final step in the comparative evaluation process is to rate each siting option by a factor suitability level. The chapter ends with a discussion of major differences in municipal finance impacts between siting options.

5.2 SITING OPTIONS UNDER CONSIDERATION

The comparative evaluation process of municipal finance impacts was undertaken for six siting options. These include:

- West Lincoln - LF-3C
  - LF-9C

- Niagara Falls - LF-1E
  - LF-1E/PI-27E

- Milton - LF-4N/PI-1N
  - LF-4N/PI-13N

The general locations of the siting options are shown on Figure 5.

5.3 STATEMENT OF GENERAL ASSUMPTIONS

The key assumptions used in the comparative evaluation of municipal finance impacts of alternative siting options are stated below. The support for these assumptions have previously been discussed in Chapters 2 and 3. Other less significant assumptions which have been made are discussed in Appendix C.

The key assumptions regarding the characteristics of the proposed OWMC facilities include the following:*

- The facilities will consist of a physical/chemical treatment and solidification plant, an incinerator and an engineered landfill.

- The facilities will have an ultimate capacity to process 300,000 tonnes of special wastes per year.

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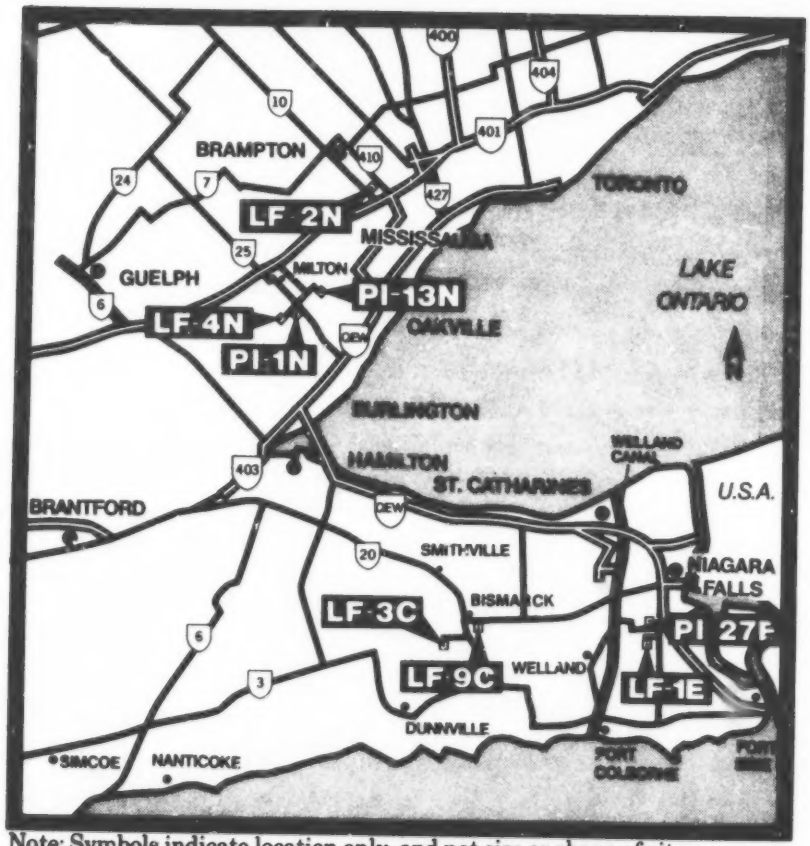
* See Monenco Limited, Facility Design, 1985 and Monenco Limited, Phase 4A: Selection of a Preferred Site(s) - Engineering, 1985.

Figure 5
Candidate Sites



Note: Symbols indicate location only, and not size or shape of sites.

Site Name	Landfill	Physical/ Chemical	Incinerator	
LF-2N	•	•		
LF-4N	•	•		
LF-3C	•	•	•	Integrated
LF-9C	•	•	•	Integrated
LF-1E	•	•	•	Integrated
PI-1N		•	•	
PI-13N		•	•	
PI-27E		•	•	

OWMC, 1985.

LEGEND

- Candidate Sites
- 400 Series Highways
- Other Highways & Roads

0 10 Kilometres

0 10 Miles

- All of the waste residue will be solidified.

The key municipal finance assumptions include the following:

- Assessed values of the elements of the facilities subject to assessment have been estimated by the Ministry of Revenue at $2.7 million in Niagara Falls, $2.8 million in West Lincoln and $1.4 million in Milton.

- OWMC will make payments-in-lieu of property and business taxes to the candidate municipalities.

- The applicable tax rate for estimating the payments-in-lieu of business taxes for OWMC facilities is equivalent to 30 percent of the assessed value of the property.

- All capital costs relating to area and regional municipal sewer and water facilities (if required) and improvements to access roads arising from the location of the proposed facilities will be borne by OWMC.

- Fire protection for OWMC facilities will be available on site.

- Average costs for municipal services are the appropriate costs to apply to impacts on municipal operating costs.

- User charges for municipal services will not be impacted by OWMC facilities.

- Estimates of employment and household growth resulting from OWMC facilities are those determined in Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

- Property value impacts of OWMC facilities are those determined in the aforementioned report.

- Local school capacities are sufficient to accommodate increases in enrollment as a result of OWMC facilities. To the extent there is a financial impact on school boards, the impact is almost entirely offset by the Provincial education grant structure.

- There would be no industrial spin-off associated with OWMC facilities.

- Municipal revenue and operating cost impacts resulting from the location of the facilities are calculated to reflect existing conditions (i.e., 1983 as the year of operation). Changes in future mill rates and conditional and unconditional grants from the Province are not assumed to have an impact on the comparative evaluation of the municipal finance factor among the siting options.

5.4 OVERVIEW OF THE COMPARATIVE EVALUATION PROCESS

The purpose of this section is to outline the process utilized to rank and aggregate the indicators and sub-indicators associated with the municipal finance factor across all siting options. This procedure was formulated by M.M. Dillon Limited in consultation with the site selection team. All consultants adapted the procedure to suit their own data.

The identification of factors, indicators and sub-indicators in the comparative evaluation process is directed at comparing

siting options for the proposed facilities for a variety of impacts, risks and engineering cost considerations. The factors, indicators and sub-indicators used in this evaluation process were identified in Chapter 2.

The municipal finance factor is an impact factor, as opposed to a risk factor or an engineering cost consideration. For the comparative evaluation of municipal finance impacts in the site selection process, this is the only factor identified.

An indicator in the comparative evaluation process should provide a measurable description of a factor which allows consistent and relative comparisons between siting options. These indicators are ranked in importance and then aggregated by siting option. Sub-indicators provide a measurable description of an indicator across siting options, and are also ranked and aggregated.

A process of ranking siting options by factor, indicators and sub-indicators was employed for the comparative evaluation process of siting options. This process, which has been adopted for this report, is illustrated in Figure 6.

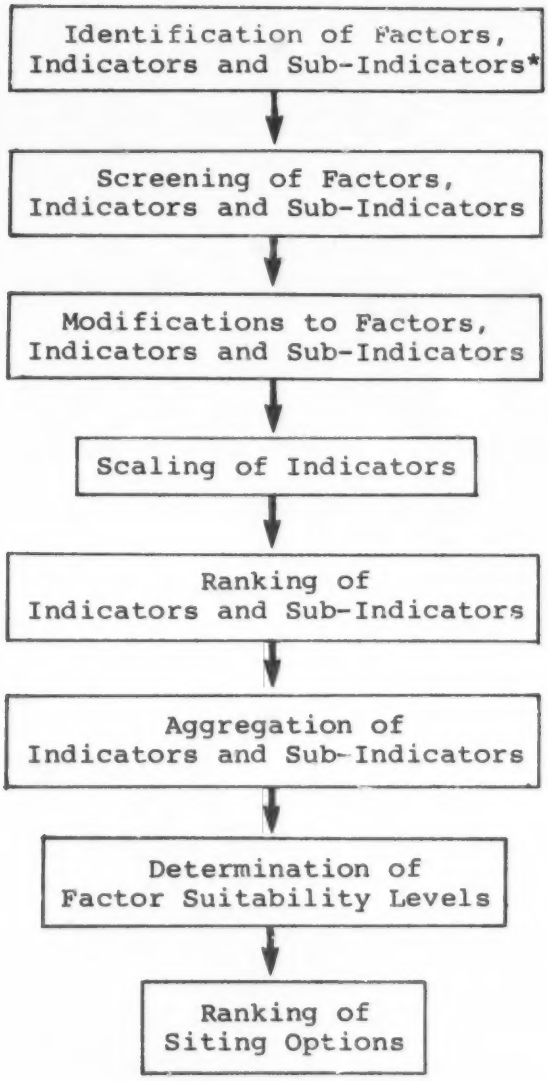
Following a brief discussion on data sources, this framework is used as the guideline for discussion in the remainder of this chapter.

5.5 DATA SOURCES

Earlier chapters in this report presented a description and analysis of data relating to the municipal finance environment of the candidate municipalities. Table 22 presents a summary of the data

FIGURE 6

SITING OPTION RANKING PROCESS


Identification of Factors, Indicators and Sub-Indicators*
Screening of Factors, Indicators and Sub-Indicators
Modifications to Factors, Indicators and Sub-Indicators
Scaling of Indicators
Ranking of Indicators and Sub-Indicators
Aggregation of Indicators and Sub-Indicators
Determination of Factor Suitability Levels
Ranking of Siting Options

* See Chapter 2 for identification of factors, indicators and sub-indicators.

TABLE 22

DATA SOURCES FOR THE MUNICIPAL FINANCE FACTOR

Factor	Indicator	Data Sources
Municipal Finance	Net financial impact on area municipality and net financial impact on regional municipality	- Estimates of economic impact, Clayton Research Associates Ltd. - Net financial impact calculations, derived by Clayton Research Associates Ltd. from financial impact model. - Cost estimate of constructing OWMC facilities, Monenco Ltd. - Real property assessment estimate and information, Ministry of Revenue. - Total site area estimate, OWMC. - Site area estimate of OWMC physical/chemical treatment plant, Monenco Ltd. - Site area of landfill, Monenco Ltd. - Impact on municipal services, interviews with area and regional officials, Clayton Research Associates Ltd.
	Net financial impact on area municipal tax rate	- Total taxable assessment by component, Ministry of Revenue. Net financial impact estimate, derived by Clayton Research Associates Ltd. from financial impact model.

sources for the municipal finance factor. A summary of data used in the comparative evaluation of siting options for municipal finance impacts is presented in Table 23.

5.6 SCREENING OF FACTORS, INDICATORS AND SUB-INDICATORS

The purpose of establishing factors, indicators and sub-indicators in the comparative evaluation process is to compare siting options. The preliminary factors, indicators and sub-indicators for evaluating municipal finance impacts which were established at the beginning of Phase 4A of the site selection process are shown in the first column of Table 24. Following the data collection and analysis process, these indicators and sub-indicators were evaluated to determine if they should be screened (eliminated) or modified.

The following guidelines were used in the screening of indicators and sub-indicators to determine if they were to be utilized. Indicators and sub-indicators were not utilized where:

- There were no or negligible differences among the siting options;
- The indicators could not be put into effect (due to measurement problems, etc.); or
- There were no or negligible levels of impact.

Table 24 provides a summary of the screening process for indicators and sub-indicators. One indicator - municipal services - was screened through this process. This indicator was screened because it could not be put into effect. Most of the municipal ser-

TABLE 23

MUNICIPAL FINANCE DATA SUMMARY FOR
COMPARATIVE EVALUATION OF SITING OPTIONS

Factor/Indicator/Sub-Indicator	Siting Options: Region of Niagara, West Lincoln, LF-3C	Region of Niagara, West Lincoln, LF-9C	Region of Niagara, Niagara Falls, LF-1E	Region of Niagara, Niagara Falls, LF-1E/ PI-27E	Region of Halton, Milton, LF-4N/ PI-1N	Region of Halton, Milton, LF-4N/ PI-13N
Municipal Finance						
Net financial impact on area municipality ($000)						
- increase in revenues	247.6	247.1	315.5	318.6	145.5	145.4
- decrease in revenues	-4.0	-3.4	-10.1	-41.1	-9.7	-9.9
- increase in operating costs	-82.2	-79.2	-137.0	-141.7	-100.6	-100.6
Net financial impact on regional municipality ($000)						
- increase in revenues	364.4	366.3	242.0	244.3	141.0	140.9
- decrease in revenues	-3.8	-3.2	-6.4	-25.9	-6.6	-6.8
- increase in operating costs	-168.5	-166.7	-135.3	-139.3	-167.1	-177.1
Net financial impact on area municipal tax rate (%)	17.2	17.5	1.4	1.1	1.0	1.0

Source: Tables 5 and 6.

TABLE 24

CHANGES IN FACTOR/INDICATORS/SUB-INDICATORS

Preliminary Phase 4A Factor/Indicators/ Sub-Indicators	Modified Phase 4A Factor/Indicators/ Sub-Indicators	Screened	Addition	Modification	Comments
Municipal Services and Financial Impacts	Municipal Finance			X	• Municipal services was screened as an indicator as it could not be put into effect. Municipal service impacts are reflected in the net financial impact indicator for the area and regional municipalities.
• Municipal finance	• Net financial impact on area municipality - increase in revenues - decrease in revenues - increase in operating costs • Net financial impact on regional municipality - increase in revenues - decrease in revenues - increase in operating costs		X	X	• Indicator divided into two indicators to provide increased information. • Sub-indicators have been added for both the area and regional municipalities to provide increased information.
	• User fees - sewer - water - recreation	X			• Screened prior to public meeting workshops, no impacts were identified.
• Municipal services		X			• Indicator could not be put into effect.
• Mill rates	• Net financial impact on area municipal tax rate			X	• Wording change to more accurately reflect indicator meaning.
• School boards	• Revenues • Costs	X			• Screened prior to public meeting workshops, no impacts were identified.

vice finance impacts are reflected in the cost estimates for the net financial impact indicator for the area and regional municipalities. Other municipal service impacts, such as the costs associated with OWMC selecting the Region of Halton's back-up sanitary landfill site (PI-1N) for its facilities or the costs of providing a higher level of services or additional services where none currently exists (e.g., full-time professional fire service in West Lincoln Township), cannot be easily quantified. Rather than attempt to integrate these considerations into a specific indicator, these municipal finance impacts are discussed as qualitative concerns, and are used to temper the results of the comparative evaluation of siting options.

Table 24 shows that no sub-indicators have been screened.

5.7 MODIFICATIONS TO FACTORS, INDICATORS AND SUB-INDICATORS

Through the data collection and analysis process, a number of modifications to indicators and sub-indicators have been identified. These modifications (which represent changes from the indicator and sub-indicator listings distributed to the public) along with the reason(s) for the modifications are outlined in Table 24. Modifications that have been made to indicators and sub-indicators are required for the most part to better define the indicator or sub-indicator or to provide more information for use in the comparative evaluation process.

It should be noted that the factor name has also been changed to municipal finance due to the emphasis on dollar impacts in this analysis and secondly, because the municipal services indicator has been screened from the comparative evaluation process.

The revised factor, indicators and sub-indicators list is shown in the second column of Table 24. The identified factor grouping includes one economic factor, three indicators and six sub-indicators.

5.8 SCALING OF INDICATORS

The municipal finance data which is used in the comparative evaluation of siting options was presented in Table 23. It should be noted that all data for sub-indicators shown in Table 23 are dollar values. As such, these sub-indicators are additive and therefore, scaling is not required to aggregate them.

One of the three indicators is in different units of measurement than the other two. The net financial impact on area municipality indicator and the net financial impact on regional municipality indicator are both expressed in dollar terms while the net financial impact on area municipal tax rate indicator is in percentage terms. In order to compare and rank the siting options at the factor level, it is therefore necessary to assign each of these indicators a value on a common scale.

For the purpose of the comparative evaluation of municipal finance impacts, a scale of 0 to 100 was selected to measure the relative differences between siting options for each indicator. The scale can be both positive and negative. Under this system, the siting option with the largest impact is scaled at 100 and all other siting options are scaled relative to this.

Table 27 on page 88 illustrates the scaling of indicators for the municipal finance factor.

5.9 RANKING OF INDICATORS AND SUB-INDICATORS

The next step in the comparative evaluation process is the ranking of indicators and sub-indicators. The ranking of indicators and sub-indicators establishes the level of relative importance of each indicator in the overall process of determining the ranking of siting options by factor. Indicators are ranked in importance from 1 to 5, with 5 representing the highest degree of importance. Sub-indicators can also be ranked in importance, but in this comparative evaluation process, all sub-indicators were considered to be equal since they are all in dollar values and they measure very definable financial impacts. Consequently, it was concluded that the ranking of sub-indicators was not required as they could be aggregated without ranking.

A set of criteria was established by M.M. Dillon Limited and the site selection team for ranking factors. The same criteria has application for ranking indicators. This criteria has been adapted and restated here for the purpose of ranking indicators of the municipal finance factor. These criteria include consideration of the following:

- Severity of impacts - indicators which will have long-term and direct dollar impacts were ranked more highly (all financial impacts were considered to be severe in this analysis); and

- Significance - significant indicators were ranked more highly. Significance is determined by the relative importance of a municipal finance impact to an area or regional municipality.

Table 25 presents the ranking of the three indicators along with a rationale for the weight assigned. Consideration was given

TABLE 25

INDICATOR WEIGHTS AND RATIONALE

Factor	Indicator	Weight	Rationale
Municipal Finance	Net financial impact on area municipality	5	- Long-term financial impact, direct dollar impact.
	Net financial impact on regional municipality	5	- Long-term financial impact, direct dollar impact.
	Net financial impact on area municipal tax rate	4	- Impact most obvious in the short-term. - Indicator is important where there is a small tax base and the relative impact is higher.

at one point to ranking the net financial impact on area municipality indicator higher than the net financial impact on regional municipality indicator. This was considered because of the difference of the relative impact on their respective tax bases. After a review, however, it was concluded that this difference was adequately recognized by the third indicator - net financial impact on area municipal tax rate.

The difference between the weights assigned each indicator essentially hinges on the severity and significance of a dollar impact (as measured by the first two indicators) versus a relative impact (as measured by the third indicator).

5.10 INDICATOR SCORING AND AGGREGATION

The purpose of this section is to aggregate the three indicators to the factor level. In order to undertake this, the sub-indicators for two of the indicators must first be aggregated.

The aggregation of sub-indicators provides a measure of the total net financial impact on the area and regional municipality of each siting option. This is outlined in Table 26 on the next page.

TABLE 26

NET FINANCIAL IMPACT ON THE AREA AND REGIONAL MUNICIPALITIES FOR EACH SITING OPTION

	Siting Options					
	Region of Niagara				Region of Halton	
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Net Financial Impact on Area Municipality ($000)	161.4	164.5	168.4	135.8	35.2	34.9
Net Financial Impact on Regional Municipality ($000)	192.1	196.4	100.3	79.1	-32.7	-43.0
Net Financial Impact on Area Municipal Tax Rate (%)	17.2	17.5	1.4	1.1	1.0	1.0

Source: Tables 6 and 7.

To aggregate at the indicator level, these figures can be scaled using the scaling technique outlined on page 84. The relative scaling for the net financial impact on area and regional municipality indicators are shown in Table 27. Table 27 also shows the relative scaling for the third indicator, net financial impact on area municipal tax rate.

Once the indicators have been transposed to a common scale, it is then possible to apply the indicator weights which were discussed in section 5.9, and which are shown on Table 28, to each indicator to produce ranked indicator scores. Following this, these scores are aggregated to obtain an aggregate ranked indicator score for each siting option for the municipal finance factor. These aggregate ranked indicator scores are also shown on Table 28.

5.11 FACTOR SUITABILITY LEVELS

The purpose of this section is to transpose the aggregate ranked indicator scores to a scale ranging from 0 to 5. This is necessary so that the full range of factors being utilized in the site selection process can be ranked and aggregated by the site selection

TABLE 27

SCALING OF INDICATORS

Indicator	Siting Options: Region of Niagara — West Lincoln LF-3C	West Lincoln LF-9C	Niagara Falls LF-1E	Niagara Falls LF-1E/ PI-27E	Region of Halton — Milton LF-4W/ PI-1W	Milton LF-4W/ PI-13W
Net Financial Impact on Area Municipality	96	98	100	81	21	21
Net Financial Impact on Regional Municipality	98	100	51	40	-17	-22
Net Financial Impact on Area Municipal Tax Rate	98	100	8	6	6	6

TABLE 28

AGGREGATE RANKED INDICATOR SCORES

Indicator	Weight	Siting Options: Region of Niagara — West Lincoln LF-3C	West Lincoln LF-9C	Niagara Falls LF-1E	Niagara Falls LF-1E/ PI-27E	Region of Halton — Milton LF-4W/ PI-1W	Milton LF-4W/ PI-13W
Net Financial Impact on Area Municipality	5	480	490	500	405	105	105
Net Financial Impact on Regional Municipality	5	490	500	255	200	-85	-110
Net Financial Impact on Area Municipal Tax Rate	4	392	400	32	24	24	24
Aggregate Ranked Indicator Scores		1,362	1,390	787	629	44	19

Note: The ranked indicator score for each indicator and siting option was derived by multiplying the scaled values in Table 26 by the respective weight for each indicator in Table 27. For example, the scaled value for siting option LF-3C for the net financial impact on area municipality indicator in Table 26 is equal to 96. This figure is multiplied by its assigned weight, 5, to achieve a ranked indicator score of 480.

team to arrive at a preferred siting option. The rating of siting options on this scale is referred to as factor suitability levels.

To transpose the aggregate ranked indicator scores to a corresponding factor suitability level, the largest aggregate ranked indicator score shown in Table 28 (the 1,390 for siting option LF-9C) is assigned a factor suitability level of 5. The scores of the remaining siting options are assigned proportionate values based on their aggregate ranked indicator score.

TABLE 29

FACTOR SUITABILITY LEVELS FOR SITING OPTIONS
MUNICIPAL FINANCE FACTOR

Siting Option	Factor Suitability Level
LF-3C, West Lincoln	4.9
LF-9C, West Lincoln	5.0
LF-1E, Niagara Falls	2.8
LF-1E/PI-27E, Niagara Falls	2.3
LF-4N/PI-1N, Milton	0.2
LF-4N/PI-13N, Milton	0.1

A high value for the factor suitability level for a siting option indicates that the municipal finance factor will have a relatively high positive impact on municipal finance in the respective area and regional municipalities. A lower value for the factor suitability level indicates that there will be less municipal finance impact in the respective area and regional municipalities.

The municipal finance factor is one of the few factors in Phase 4A of the site selection process which has a positive factor suitability level. For most other factors considered by the site selection team, the factor suitability levels are on a negative scale, where a value of 5 indicates the greatest impact and is the lowest ranking for that factor. However, since the scale for the municipal finance factor is positive, a factor suitability level of 5 represents the highest ranking for this factor.

5.12 COMPARISON AND RANKING OF SITING OPTIONS

The purpose of this section is to rank siting options on the basis of the municipal finance factor and to prcvide an evaluation of the rationale for the ranking. This section also reintroduces some of the qualitative considerations which have been discussed in this report and which could have a municipal finance impact for some siting options. In the following sensitivity analysis chapter, various considerations, including a time consideration, are evaluated to determine if the ranking of the siting options would change if certain assumptions were changed.

The ranking of the siting options for the municipal finance factor is determined by the factor suitability levels shown on Table 29. The siting options are ranked from the most preferred to the least preferred as follows:

- LF-9C, West Lincoln
- LF-3C, West Lincoln

- LF-1E, Niagara Falls
- LF-1E/PI-27E, Niagara Falls

- LF-4N/PI-1N, Milton
- LF-4N/PI-13N, Milton

Table 30 provides summary information explaining the ranking of each siting option for the municipal finance factor.

Siting option LF-9C is ranked as the most preferred siting option for the municipal finance factor. OWMC facilities in this location have the lowest impact on area municipal operating costs, they generate the highest increase in revenue for the regional mu-

TABLE 30

FACTOR SUITABILITY LEVELS
FOR THE MUNICIPAL FINANCE FACTOR

Siting Option	Suitability Level	Rationale
LF-3C West Lincoln	4.9	- Impact of payments-in-lieu of taxes made by OWMC is large compared to municipal tax base. - The financial impacts on operating costs of the area municipality are less because of lower levels of service. - Negative property value impacts are lower because of fewer affected households and lower taxes.
LF-9C West Lincoln	5.0	- As above for LF-3C. - Slightly lower increase in operating costs than LF-3C because of lower regional maintenance costs on affected access roads.
LF-1E Niagara Falls	2.8	- Large increase in operating costs because of high levels of area municipal service. - Revenue increases are high due to higher tax rates and greater anticipated household growth.
LF-1E/PI-27E Niagara Falls	2.3	- As above for LF-1E. - Option requires two sites, greater reduced property taxes due to negative property value impacts.
LF-4N/PI-1N Milton	0.2	- Impact of payments-in-lieu of taxes made by OWMC is much less because of unusual municipal tax levy situation. - Option requires two sites, greater reduced property taxes due to negative property value impacts.
LF-4N/PI-13N Milton	0.1	- As above for LF-4N/PI-1N. - Slightly higher operating costs than LF-4N/PI-1N because of higher regional maintenance costs on affected access roads.

nicipality and, next to siting option LF-3C, the loss of taxes due to negative property value impacts is the lowest among the siting options. Siting option LF-3C is very close in comparison and ranking in municipal finance impact to siting option LF-9C. The difference between the two West Lincoln siting options is the higher municipal operating costs associated with siting option LF-3C.

The area and regional municipal mill rates, the lower burden of taxes, the lower levels of area municipal servicing and the small area municipal tax base relative to the expected increase in area municipal revenues, all have a large influence on the ranking of the two West Lincoln siting options. The lower area municipal mill rates and burden of taxes reduces the negative property value impacts associated with OWMC facilities, while the lower levels of area municipal servicing reduces the negative impact on area municipal operating costs. The mill rate for regional municipal services for West Lincoln results in a large increase in revenues for the regional municipality for both siting options in this Township. Finally, the increase in area municipal revenues resulting from OWMC facilities has a large relative impact on the area municipal tax base and, as a result, these siting options rank high with respect to the third indicator - net financial impact on area municipal tax rate.

While the two West Lincoln siting options emerge as the most preferred in terms of municipal finance impacts, there are other, more qualitative considerations which should be considered. First, there is the concern of Township officials that all costs for municipal capital works and projects associated with OWMC facilities will not in fact be borne by OWMC. If this proves to be the case, the Township, due to its small tax base, could be negatively impacted by the location of these facilities in the Township. Second, there is a concern that incremental costs have not been considered in the calculation of area municipal finance impacts.

Township officials are concerned that permanent staffing may be required for the fire station (rather than on a volunteer basis) and that additional services such as planning and engineering may be required, which will not be covered by OWMC. If this occurs, the positive municipal finance impacts determined in the above analysis for West Lincoln would decrease.

The two Niagara Falls siting options, LF-1E and LF-1E/PI-27E, were ranked as the third and fourth preferred siting options, respectively, for the municipal finance factor. The lower ranking for siting option LF-1E/PI-27E is due to the higher costs associated with a dual siting option (through the requirement for more access roads and through greater negative property value impacts), as opposed to the requirement for only one site with siting option LF-1E.

The lower ranking of the Niagara Falls siting options, relative to the two siting options in West Lincoln, is largely explained by three impacts: first, there is a much lower increase in regional municipal revenues associated with the Niagara Falls siting options; second, the increase in area municipal operating costs are higher in Niagara Falls than in West Lincoln; and third, the relative impact on the area municipal tax rate is much lower in Niagara Falls. The lower increase in regional municipal revenues is explained by the lower regional mill rate in Niagara Falls. The higher area municipal operating costs are a consequence of the higher level of area municipal servicing in Niagara Falls. And finally, the lower relative impact on the area municipal tax rate is explained by the larger size of the municipal tax base in Niagara Falls.

The two Milton sites, LF-4N/PI-1N and LF-4N/PI-13N, are ranked as the two least preferred siting options in terms of municipal

finance impacts. The low ranking of these siting options is explained more by the method of market value assessment employed in Milton than it is by municipal cost factors. Under the assessment methods applied in Milton, the payments-in-lieu of taxes made by OWMC to Milton would be about half the amount paid to the other two municipalities. If not for this quirk in the tax system, the two siting options in Milton would be more closely ranked with the two Niagara Falls siting options.*

Beyond the strict financial analysis employed in this comparative evaluation, Milton officials raised additional cost considerations. The capacity of the sewage treatment plant in Milton is limited by the assimilation capacity of the receiving stream. In fact, there is current capacity for only about 2,000 additional people. Town officials expressed concern that either OWMC facilities or the resulting household growth could place additional strain on the Town's sewage treatment plant. Town officials also raised concerns over possible incremental costs (such as the ability of the existing fire department to service additional growth, staff time for inquiries, capital works projects, etc.) that might not be adequately compensated for through the payments-in-lieu of taxes made by OWMC.

A further consideration when assessing Milton siting option LF-4N/PI-1N is the selection of candidate site PI-1N as a back-up sanitary landfill site by the Region of Halton. The Region of Halton has undertaken costly studies to identify a preferred site for a new sanitary landfill operation. While PI-1N is not the preferred site selected by the Region of Halton, the possibility exists that the selected site may not be approved through the environmental assessment process, in which case candidate site PI-1N would

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* This quirk in the assessment procedures applied in Milton is explained on page 48.

likely become the alternative choice for the regional sanitary landfill site. Should this occur, the impact on regional municipal costs in selecting this siting option for OWMC facilities would be much higher than estimated in this comparative evaluation process. As a result, LF-4N/PI-1N could be ranked lower in the final analysis than LF-4N/PI-13N.

In the following sensitivity analysis chapter, a number of "what-if" questions are addressed and changes in the underlying assumptions are made to determine their effects on the preceding results.

CHAPTER 6

SENSITIVITY ANALYSIS AND POTENTIAL FOR MITIGATION

6.1 PURPOSE

The analysis and findings to this point have utilized a base case set of assumptions and procedures relating to the potential municipal finance impacts resulting from OWMC facilities. These assumptions and procedures produce "best estimate" results. However, it should be noted that the base case scenario was chosen so as to prevent the understating of the extent of negative impacts or the exaggeration of the extent of positive impacts. The assumptions have not incorporated any allowance for mitigation measures which could be implemented by OWMC to counter the more negative impacts identified in the base case analysis.

The purposes of this chapter are: first, to examine alternative key assumptions and determine the impact they would have on the ranking of siting options by the municipal finance factor; and second, to identify mitigative measures that could be undertaken by OWMC to reduce the negative impacts associated with the facilities.

The chapter is divided into two parts. The first part presents alternative assumptions to the key assumptions used in the base case scenario and presents an estimate of the impact of substituting these alternative assumptions on the ranking of the siting options. The second part discusses the possible mitigation measures which OWMC could undertake and their impact on the ranking of the siting options.

6.2 SENSITIVITY ANALYSIS

The implications of seven alternative input assumptions on the ranking of the siting options are analyzed here:*

- The facilities will have the capacity to process 150,000 tonnes of special wastes per year in the tenth year of operation (the base case scenario assumed a 300,000 tonne capacity).

- The negative property value impacts associated with the facilities will be larger than the impacts assumed in the base case scenario resulting in an out-migration of households.

- The method of effluent management will be partial solidification rather than total solidification.

- The entire siting option will be assessed as industrial land.

- OWMC will not pay business taxes on the facilities, but will continue to make payments-in-lieu of property taxes.

- Municipal salaries in West Lincoln will increase as a result of OWMC facilities.

- Industrial employment and household growth will change the economic base of the candidate municipalities from that of the base year.

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* The implications of an eighth alternative assumption were determined as well - the inclusion of debt service charges (excluding those for sewer, water and roads) as part of the operating costs. The results did not reveal any significant difference from the base case scenario (see Appendix Tables C-21 and C-22).

The implications on the ranking of the siting options under each of these assumptions are discussed below.

6.2.1. CAPACITY OF 150,000 TONNES PER YEAR

Designing OWMC facilities for 150,000 tonnes capacity in the tenth year of operation, instead of 300,000 tonnes, reduces the amount of property tax revenues and payments-in-lieu. The reduction in these revenues however, is not proportional to the reduced capacity. This situation arises because the value of the assessable portions of OWMC facilities and the households indirectly generated do not decline in proportion to the reduced capacity.

TABLE 31

BASE CASE AND ALTERNATIVE ASSUMPTION
MUNICIPAL FINANCE IMPACTS

Indicator and Siting Options	Base Case Scenario	150,000 Tonne Scenario
Net Financial Impact on Area Municipality ($000)		
LF-3C	161	118
LF-9C	165	121
LF-1E	168	129
LF-1E/PI-27E	136	97
LF-4N/PI-1N	35	17
LF-4N/PI-13N	35	17
Net Financial Impact on Regional Municipality ($000)		
LF-3C	192	133
LF-9C	196	142
LF-1E	100	72
LF-1E/PI-27E	79	52
LF-4N/PI-1N	-33	-39
LF-4N/PI-13N	-43	-49
Net Financial Impact on Area Municipal Tax Rate (%)		
LF-3C	17.2	12.5
LF-9C	17.5	12.9
LF-1E	1.4	1.0
LF-1E/PI-27E	1.1	0.8
LF-4N/PI-1N	1.0	0.5
LF-4N/PI-13N	1.0	0.5

Source: Tables 6,7, C-9 and C-10.

TABLE 32

IMPLICATIONS ON RANKING OF SITING OPTIONS
150,000 TONNE SCENARIO

Siting Options	Factor Suitability Levels for Municipal Finance Factor		Municipal Finance Factor Ranked Across Siting Options	
	Base Case Scenario	150,000 Tonne Scenario	Base Case Scenario	150,000 Tonne Scenario
LF-3C	4.9	4.8	2	2
LF-9C	5.0	5.0	1	1
LF-1E	2.8	2.9	3	3
LF-1E/PI-27E	2.3	2.1	4	4
LF-4N/PI-1N	0.2	-0.2	5	5
LF-4N/PI-13N	0.1	-0.3	6	6

The substitution of the 150,000 tonnes capacity assumption does not alter the ranking of the siting options (it reduces the

absolute impact for each siting option, not the relative impact). Siting option LF-9C in West Lincoln remains the most preferred location from the perspective of the municipal finance factor followed closely by siting option LF-3C.

6.2.2 LARGER NEGATIVE PROPERTY VALUE AND OUT-MIGRATION IMPACTS

TABLE 33

BASE CASE AND ALTERNATIVE ASSUMPTION MUNICIPAL FINANCE IMPACTS

Indicator and Siting Options	Base Case Scenario	Maximum Negative Property Value Impact and Out-Migration Scenario
Net Financial Impact on Area Municipality ($000)		
LF-3C	161	161
LF-9C	165	164
LF-1E	168	168
LF-1E/PI-27E	136	136
LF-4N/PI-1N	35	33
LF-4N/PI-13N	35	32
Net Financial Impact on Regional Municipality ($000)		
LF-3C	192	194
LF-9C	196	197
LF-1E	100	101
LF-1E/PI-27E	79	79
LF-4N/PI-1N	-33	-32
LF-4N/PI-13N	-43	-42
Net Financial Impact on Area Municipal Tax Rate ($)		
LF-3C	17.2	17.1
LF-9C	17.5	17.5
LF-1E	1.4	1.4
LF-1E/PI-27E	1.1	1.1
LF-4N/PI-1N	1.0	1.0
LF-4N/PI-13N	1.0	0.9

Source: Tables 6, 7, C-11 and C-12.

The base case estimates of the reduced assessment values on properties in the site vicinity assumed a reduction proportionate to the decline in market values. The base case estimates of negative property value impacts assumed a low level impact on residential and farm properties (levels of impact were determined from a literature search).* Within a 500 metre radius of the siting option, average reductions of 16 percent in residential property values and ten percent for farm property values were assumed. For the larger negative impact scenario, the estimates are based on the largest negative impacts encountered in the literature search - 46 percent for residential property values and 20 percent for farm property

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* Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.

values within the 500 metre radius. Thus, a proportionally larger decrease in assessed values is assumed in this scenario.

It was also assumed in this scenario that the households interviewed by the Institute of Environmental Research (in their portion of the "Walk and Talk" program) who indicated they would leave their community as a result of the location of OWMC facilities, would actually do so. Their numbers ranged from eight households in the site vicinity of LF-9C to 17 households in the site vicinity of LF-4N/PI-13N.*

TABLE 34

IMPLICATIONS ON RANKING OF SITING OPTIONS
MAXIMUM NEGATIVE PROPERTY VALUE IMPACT AND OUT-MIGRATION SCENARIO

Siting Options	Factor Suitability Levels for Municipal Finance Factor		Municipal Finance Factor Ranked Across Siting Options	
	Base Case Scenario	Maximum Negative Property Value Impact and Out-Migration Scenario	Base Case Scenario	Maximum Negative Property Value Impact and Out-Migration Scenario
LF-3C	4.9	4.9	2	2
LF-9C	5.0	5.0	1	1
LF-1E	2.8	2.8	3	3
LF-1E/PI-27E	2.3	2.3	4	4
LF-4N/PI-1N	0.2	0.2	5	5
LF-4N/PI-13N	0.1	0.0	6	6

This alternative assumption marginally increases the size of the estimated loss in the assessed value of property in the site vicinities of all six siting options. These impacts, however, are not of sufficient magnitude to alter the ranking of the siting options.

6.2.3 PARTIAL SOLIDIFICATION

The use of a partial solidification processing technique results in the treated effluent being evaporated and only the inert residues from the incineration and physical/chemical processes being solidi-

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* See Institute of Environmental Research Inc., Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Social Analysis, 1985.

fied and deposited into the engineered landfill. Under the partial solidification process, larger auxiliary boilers and another stack of 45 metres height for discharge of evaporated effluent (in contrast to the total solidification process) will be added to the plant configuration. The plume from this stack may stretch from one to seven kilometres, depending on the climatic conditions and will be considerably more visible than any emissions under the total solidification scenario.

TABLE 35

BASE CASE AND ALTERNATIVE ASSUMPTION MUNICIPAL FINANCE IMPACTS

Indicator and Siting Options	Base Case Scenario	Partial Solidification Scenario
Net Financial Impact on Area Municipality ($000)		
LF-3C	161	161
LF-9C	165	164
LF-1E	168	167
LF-1E/PI-27E	136	135
LF-4N/PI-1N	35	38
LF-4N/PI-13N	35	36
Net Financial Impact on Regional Municipality ($000)		
LF-3C	192	195
LF-9C	196	198
LF-1E	100	100
LF-1E/PI-27E	79	79
LF-4N/PI-1N	-33	-27
LF-4N/PI-13N	-43	-38
Net Financial Impact on Area Municipal Tax Rate ($)		
LF-3C	17.2	17.2
LF-9C	17.5	17.5
LF-1E	1.4	1.4
LF-1E/PI-27E	1.1	1.1
LF-4N/PI-1N	1.0	1.0
LF-4N/PI-13N	1.0	0.9

Source: Tables 6.7, C-13 and C-14.

The partial solidification technique has two implications for the municipal finance impact analysis: the additional OWMC facilities are assessable and thus represent more revenues (payments-in-lieu) for the candidate municipalities; and the visibility of the smoke plume from the evaporation facility carries the potential for an increase in the size of the negative impact on assessed property values and an increase in the number of households that might leave the site vicinity as a result of the location of the OWMC facilities.

Thus, due to the nature of the partial solidification processing technique, larger negative property value impacts and the resulting out-migration of households (the alternative scenario in the previous sensitivity test) were combined with an increase in payments-in-lieu revenues to derive the impact of the partial solidification scenario.

TABLE 36

IMPLICATIONS ON RANKING OF SITING OPTIONS
PARTIAL SOLIDIFICATION SCENARIO

Siting Options	Factor Suitability Levels For Municipal Finance Factor		Municipal Finance Factor Ranked Across Siting Options	
	Base Case Scenario	Partial Solidification Scenario	Base Case Scenario	Partial Solidification Scenario
LF-3C	4.9	4.9	2	2
LF-9C	5.0	5.0	1	1
LF-1E	2.8	2.8	3	3
LF-1E/PI-27E	2.3	2.3	4	4
LF-4N/PI-1N	0.2	0.2	5	5
LF-4N/PI-13N	0.1	0.1	6	6

Once again, the impacts of this alternative scenario were not sufficient to alter the ranking of the six siting options.

6.2.4 ASSESSING ENTIRE SITE AS INDUSTRIAL LAND

TABLE 37

BASE CASE AND ALTERNATIVE ASSUMPTION
MUNICIPAL FINANCE IMPACTS

Indicator and Siting Options	Base Case Scenario	All Land Assessed Industrial Scenario
Net Financial Impact on Area Municipality ($000)		
LF-3C	161	185
LF-9C	165	174
LF-1E	168	248
LF-1E/PI-27E	136	236
LF-4N/PI-1N	35	108
LF-4N/PI-13N	35	107
Net Financial Impact on Regional Municipality ($000)		
LF-3C	192	226
LF-9C	196	211
LF-1E	100	162
LF-1E/PI-27E	79	157
LF-4N/PI-1N	-33	34
LF-4N/PI-13N	-43	23
Net Financial Impact on Area Municipal Tax Rate (%)		
LF-3C	17.2	19.7
LF-9C	17.5	18.6
LF-1E	1.4	2.0
LF-1E/PI-27E	1.1	1.9
LF-4N/PI-1N	1.0	3.2
LF-4N/PI-13N	1.0	3.1

Source: Tables 6,7, C-15 and C-16.

In the base case scenario, a sizeable area of each siting option was classed as farm land for assessment purposes. This would serve as a buffer zone surrounding the facilities. The buffer zone is included in the site acquisition area.

The situation may arise whereby OWMC will not allow this land to be used for farm purposes. Under this scenario, it is possible the Ministry of Revenue would assess the land as unserviced industrial rather than farm land.

The change in assessment of unused land from farm to unserviced industrial land increases the net area and regional municipal revenues arising from all six siting options - particularly for the siting options in Niagara Falls and Milton, because of higher property taxes in these municipalities. The increase in net municipal revenues for the two Milton siting options is more than sufficient to alter the net impact of OWMC facilities at the regional level from a negative impact to a positive impact.

TABLE 38

IMPLICATIONS ON RANKING OF SITING OPTIONS
ALL LAND ASSESSED INDUSTRIAL SCENARIO

Siting Options	Factor Suitability Levels For Municipal Finance Factor		Municipal Finance Factor Ranked Across Siting Options	
	Base Case Scenario	All Land Assessed Industrial Scenario	Base Case Scenario	All Land Assessed Industrial Scenario
LF-3C	4.9	5.0	2	1
LF-9C	5.0	4.7	1	2
LF-1E	2.8	3.5	3	3
LF-1E/PI-27E	2.3	3.4	4	4
LF-4N/PI-1N	0.2	1.4	5	5
LF-4N/PI-13N	0.1	1.3	6	6

While the relatively larger net revenues generated for the Niagara Falls and Milton siting options improves their factor suitability levels, this is not sufficient to alter their overall ranking. However, under this scenario, LF-3C in West Lincoln becomes the preferred siting option as the increases in municipal revenues associated with this siting option far outweight the increases associated with LF-9C due to its greater size and larger farm land component.

6.2.5 NO PAYMENTS-IN-LIEU OF BUSINESS TAXES

The base case scenario assumes that OWMC will contribute payments-in-lieu of business taxes on 30 percent of the assessed value of its facilities. This assumption was based on discussions with the Ministry of Revenue regarding OWMC's business tax status. There is the possibility however, that OWMC may not make payments-in-lieu of business taxes.

TABLE 39

BASE CASE AND ALTERNATIVE ASSUMPTION
MUNICIPAL FINANCE IMPACTS

Indicator and Siting Options	Base Case Scenario	No Business Tax Scenario
Net Financial Impact on Area Municipality ($000)		
LF-3C	161	106
LF-9C	165	109
LF-1E	168	103
LF-1E/PI-27E	136	70
LF-4N/PI-1N	35	7
LF-4N/PI-13N	35	6
Net Financial Impact on Regional Municipality ($000)		
LF-3C	192	111
LF-9C	196	115
LF-1E	100	49
LF-1E/PI-27E	79	28
LF-4N/PI-1N	-33	-59
LF-4N/PI-13N	-43	-70
Net Financial Impact on Area Municipal Tax Rate (%)		
LF-3C	17.2	11.3
LF-9C	17.5	11.6
LF-1E	1.4	0.8
LF-1E/PI-27E	1.1	0.6
LF-4N/PI-1N	1.0	0.2
LF-4N/PI-13N	1.0	0.2

Source: Tables 6.7, C-17 and C-18.

Under this assumption, the net revenue impacts of OWMC facilities are reduced for all six siting options. The operating costs attributable to OWMC would remain the same but the revenues generated would be substantially less.

The removal of payments-in-lieu of business taxes does not alter the ranking of the six siting options. Siting option LF-9C in West Lincoln remains the preferred siting option from the perspective of the municipal finance factor and LF-4N/PI-13N in Milton remains the least preferred siting option.

TABLE 40

IMPLICATIONS ON RANKING OF SITING OPTIONS
NO BUSINESS TAX SCENARIO

Siting Options	Factor Suitability Levels For Municipal Finance Factor: Base Case Scenario	Factor Suitability Levels For Municipal Finance Factor: No Business Tax Scenario	Municipal Finance Factor Ranked Across Siting Options: Base Case Scenario	Municipal Finance Factor Ranked Across Siting Options: No Business Tax Scenario
LF-3C	4.9	4.9	2	2
LF-9C	5.0	5.0	1	1
LF-1E	2.8	2.5	3	3
LF-1E/PI-27E	2.3	1.6	4	4
LF-4N/PI-1N	0.2	-0.8	5	5
LF-4N/PI-13N	0.1	-0.9	6	6

6.2.6 INCREASED WAGES AND SALARIES IN WEST LINCOLN

The location of OWMC facilities in the rural Township of West Lincoln could result in an increase in the level of municipal salaries

TABLE 41

BASE CASE AND ALTERNATIVE ASSUMPTION
MUNICIPAL FINANCE IMPACTS

Indicator and Siting Options	Base Case Scenario	Increased Wage and Salary Level in West Lincoln Scenario
Net Financial Impact on Area Municipality ($000)		
LF-3C	161	123
LF-9C	165	126
LF-1E	168	168
LF-1E/PI-27E	136	136
LF-4N/PI-1N	35	35
LF-4N/PI-13N	35	35
Net Financial Impact on Regional Municipality ($000)		
LF-3C	192	192
LF-9C	196	196
LF-1E	100	100
LF-1E/PI-27E	79	79
LF-4N/PI-1N	-33	-33
LF-4N/PI-13N	-43	-43
Net Financial Impact on Area Municipal Tax Rate (%)		
LF-3C	17.2	13.1
LF-9C	17.5	13.4
LF-1E	1.4	1.4
LF-1E/PI-27E	1.1	1.1
LF-4N/PI-1N	1.0	1.0
LF-4N/PI-13N	1.0	1.0

Source: Tables 6.7, C-19 and C-20.

and benefits to a level comparable to those of more urbanized municipalities. These increases could be explained by a need for better trained and more qualified staff and possible pressure on wages due to a wage differential between OWMC and municipal employees.

Under this assumption, salaries and benefits in West Lincoln are increased by five percent overall. The salaries remain unchanged in the other two area municipalities (which are more urbanized) and the two regional municipalities.

TABLE 42

IMPLICATIONS ON RANKING OF SITING OPTIONS
INCREASED WAGE AND SALARY LEVEL IN WEST LINCOLN SCENARIO

Siting Options	Factor Suitability Levels for Municipal Finance Factor		Municipal Finance Factor Ranked Across Siting Options	
	Base Case Scenario	Increased Wage and Salary Level in West Lincoln Scenario	Base Case Scenario	Increased Wage and Salary Level in West Lincoln Scenario
LF-3C	4.9	4.9	2	2
LF-9C	5.0	5.0	1	1
LF-1E	2.8	3.1	3	3
LF-1E/PI-27E	2.3	2.5	4	4
LF-4N/PI-1N	0.2	0.2	5	5
LF-4N/PI-13N	0.1	0.1	6	6

The impact of increased salaries and benefits in West Lincoln does not effect the overall ranking of siting options.

6.2.7 FUTURE SCENARIOS

It has been assumed in the base case scenario that OWMC facilities were built and operating in 1983, the latest year for which de-

tailed financial data were available. However, OWMC facilities may in fact not be operational until the early 1990's, seven to ten years after the year for which the financial analysis was undertaken. In order to examine the implications of this lag, a brief analysis of future trends was undertaken to identify any changes in municipal finance and in the municipal economy that would affect the ranking of the siting options.

In municipal finance, the following trend is expected to continue:

- Senior government contributions in the form of conditional and unconditional grants will continue to decline in real terms and perhaps even in current dollar terms. Each municipality will be required to bear an increasingly larger share of the costs of the services which they provide for their residents.

The implications of this trend are more serious for a rural municipality like West Lincoln which does not have a strong assessment base and is heavily dependent on Provincial grants. The location of OWMC facilities in West Lincoln, therefore, could be relatively more beneficial than that shown in the base case scenario. However, this would not alter the overall ranking of the six siting options.

In terms of the economy of each municipality, the following trends are expected to continue:

Area municipalities

- No major change in population or economic base is anticipated in Niagara Falls. Population and industrial growth is expected to be modest over the next decade, with a shift towards an aging population.

- Milton's population growth will be constrained until more area can be serviced by an expanded sewage treatment plant.

- West Lincoln is a stable agricultural community. It is expected to experience slow population growth over the next decade without any dramatic changes in its economic structure. The Township has, however, been upgrading its provision of municipal services and, by the early 1990's, may offer a somewhat wider range of municipal services than at present.

The above three trends suggest that the population and industrial composition of all three area municipalities may be quite similar to that reflected in the 1983 base data. Thus, if the municipal finance analysis undertaken in this report was conducted for any year in the near future, the rankings of the siting options would be similar to those resulting from the 1983 data.

Regional municipalities

- The Region of Halton, with its industrial centres of Oakville and Burlington, will continue to grow relatively faster than the Region of Niagara which is more heavily dependent on older, more established industries.

This trend should result in a relatively larger assessment base in Halton over which to spread regional operating costs. Consequently, the impacts of OWMC facilities on the Region of Halton operating costs would tend to be lower than those shown in the base case, but not enough to suggest that a change in the ranking of siting options would occur. There is no anticipated impact from this future scenario assumption on the Region of Niagara's municipal finances.

6.3 POTENTIAL FOR MITIGATION

The municipal finance analysis has identified two negative impacts associated with the location of OWMC facilities: (1) a negative net financial impact on the Region of Halton arising from the two Milton siting options; and (2) a potential negative repercussion on Halton's search for a regional sanitary landfill site.

The former negative impact could be countered by making an annual contribution to Halton equal to the estimated deficit (the actual extent of the deficit could be more closely examined in Phase 4B of the site selection process). With respect to the Halton sanitary landfill site selection, the selection of siting option LF-4N/PI-1N as the location for OWMC facilities would require negotiations between OWMC and Halton to reach an accommodation.*

6.4 CONCLUSION

The use of alternative assumptions from those of the base case scenario does not greatly alter the ranking of the siting options for the municipal finance factor (see Table 43). Siting option LF-9C in West Lincoln is the preferred siting option under all scenarios followed closely by LF-3C (except under the scenario where the entire siting option is assessed as industrial, where LF-3C is the preferred siting option followed by LF-9C). These

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* While PI-1N is not the preferred site selected by the Region of Halton, the possibility exists that the selected site may not be approved through the environmental assessment process; in this case, candidate site PI-1N would likely become the alternative choice for the regional sanitary landfill site.

TABLE 43

FACTOR SUITABILITY LEVELS AND SITING OPTION RANKINGS
BASE CASE AND ALTERNATIVE ASSUMPTIONS

	Siting Option					
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Base Case Scenario						
Factor Suitability Level	4.9	5.0	2.8	2.3	0.2	0.1
Ranking	2	1	3	4	5	6
150,000 Tonnes Scenario						
Factor Suitability Level	4.8	5.0	2.9	2.1	-0.2	-0.3
Ranking	2	1	3	4	5	6
Maximum Negative Property Value Impact and Out-Migration Scenario						
Factor Suitability Level	4.9	5.0	2.8	2.3	0.2	0.0
Ranking	2	1	3	4	5	6
Partial Solidification Scenario						
Factor Suitability Level	4.9	5.0	2.8	2.3	0.2	0.1
Ranking	2	1	3	4	5	6
All Land Assessed Industrial Scenario						
Factor Suitability Level	5.0	4.7	3.5	3.4	1.4	1.3
Ranking	1	2	3	4	5	6
No Business Tax Scenario						
Factor Suitability Level	4.9	5.0	2.5	1.6	-0.8	-0.9
Ranking	2	1	3	4	5	6
Increased Wage and Salary Level in West Lincoln Scenario						
Factor Suitability Level	4.9	5.0	3.1	2.5	0.2	0.1
Ranking	2	1	3	4	5	6

Source: Tables 32, 34, 36, 38, 40 and 42.

siting options are followed by the two Niagara Falls siting options and the two Milton siting options in terms of preference.

While the use of alternative assumptions does not affect the ranking of siting options, their use does create variations in the net financial impacts of OWMC facilities. As reflected in the factor suitability levels shown on Table 43, the net impact of the facilities on siting options LF-4N/PI-1N and LF-4N/PI-13N becomes negative under the 150,000 tonnes capacity scenario and the no payments-in-lieu of business tax scenario. In addition, the impact of assessing all siting option lands as industrial increases the net financial benefits of the two Niagara Falls and two Milton siting options far more than for the West Lincoln siting options and this is reflected in their higher factor suitability levels under this scenario.

APPENDICES

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FACTOR SHEETS

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OWMC PHASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

FACILITY COMPONENTS AFFECTED:
All facilities.

FACTOR APPLIED FOR FOLLOWING OPTIONS:
Comparison of siting options.

DEFINITION OF THE FACTOR:
This factor relates to the overall impact of OWMC special waste treatment and disposal facilities on the net revenues and operating costs of each area and regional municipality where siting options are located.

RATIONALE AND SIGNIFICANCE:
This factor refers to OWMC's objective of minimizing the environmental impact of the facilities.

The development of OWMC facilities will affect municipal net revenues and costs. For example, the candidate municipalities will have to provide more services to both the new waste management facilities and to the new residents that are expected to locate in the municipality. These costs are weighed against the changes in municipal revenues from taxes, payments-in-lieu of taxes and Provincial grants. The effects of possible negative property value impacts on the municipal tax base are also considered.

The factor is important for three reasons:

- It describes changes in municipal net revenues and costs;
- It indicates the degree of financial impact (both absolute and relative) that may be caused in each municipality where candidate siting options are located; and
- It has ramifications for all taxpayers of these municipalities.

OWMC PEASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

SOURCES OF INFORMATION:

- Financial Information Returns of the candidate municipalities;
- Interviews with municipal and Provincial officials;
- Estimates of economic impact from the Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985;
- Estimates of the assessed value of OWMC facilities from the Ministry of Revenue;
- Provincial grant calculations from the Ministry of Municipal Affairs and Housing;
- Assessment information from the municipal assessment rolls; and
- A municipal finance impact model formulated by Clayton Research Associates (see Appendix B).

INPUTS FROM OTHER CONSULTANTS:

- Monenco Limited provided a cost estimate of constructing OWMC facilities by component;
- OWMC provided an estimate of the total area of each candidate siting option;
- Monenco Limited provided an estimate of the area to be occupied by OWMC industrial facilities (the incinerator and the physical/chemical treatment and solidification plant); and
- Monenco Limited provided an estimate of the site area to be occupied by the landfill after ten years of operation with the facilities operating at 300,000 tonnes capacity.

INTERPRETATION/METHODOLOGY:

Estimates were prepared of the impact of OWMC facilities on both the area and regional municipalities on: (1) the revenues and costs related to providing services to OWMC facilities; and (2) the revenues and costs related to the new households that OWMC might attract to the municipalities. The loss of revenue to both levels of municipal government due to potential negative property value impacts in the vicinity of the siting options was also taken into consideration.

The basic approach to the impact analysis is to superimpose OWMC facilities under the various siting options onto the municipal

OWMC PHASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

financial structure as it existed in 1983 (the latest year for which complete financial data was available). The details of the approach are outlined in Appendix C.

For each of the area and regional municipalities where siting options are located, the methodology employs the following steps:

- Estimate the municipal revenues from payments-in-lieu of taxes and from the taxes generated from the new households;
- Examine the offsetting declines in Provincial grants and in other municipal revenues; and
- Estimate the municipal operating costs of providing municipal services to each siting option and to the new households expected in the municipality.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

- It is assumed that OWMC will make general payments-in-lieu of property taxes on the assessed value of its real property and a payment-in-lieu of business taxes at a 30 percent rate.
- A "base case" scenario was chosen equivalent to that used by all members of the site selection team: OWMC facilities would process 300,000 tonnes of special waste in an incinerator and a physical/chemical treatment and solidification plant and OWMC would solidify the inert residues in an engineered landfill.
- A combination of primary and secondary data sources are used to produce the data for the indicators.
- A strength of the approach utilized is that it is based on the actual fiscal situation of the candidate municipalities in a recent year. A limitation is that, because most municipalities grow over time, financial impacts in the analysis are somewhat overstated (as relative financial impacts tend to be larger in smaller municipalities).
- The assessed values of OWMC siting options are based on assumptions regarding the amount of landfill area that would be assessed as industrial after ten years of operation.
- Like all impact models, the municipal finance impact model used in the analysis is an approximation of the real world. It does however incorporate all key variables of the municipal finance structure and the impacts of OWMC facilities on that structure.

OWMC PHASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

INDICATOR:
(1) Net Financial Impact on Area Municipality.

DEFINITION: This indicator describes the net effect of new OWMC facilities on an area municipality where a candidate siting option is located in terms of: (1) net municipal revenues (primarily payments-in-lieu of taxes); and (2) municipal costs (primarily operating costs).

This indicator is comprised of three sub-indicators:
- Increase in revenues;
- Decrease in revenues; and
- Increase in operating costs.

RATIONALE/SIGNIFICANCE:
In policy terms, this is a significant indicator as it ranks the siting options in terms of the degree of impact of OWMC facilities on the municipal financial structure of the area municipalities where siting options are located.

SOURCES OF INFORMATION:
- As listed previously.

INPUTS FROM OTHER CONSULTANTS:
- As listed previously.

STUDY AREA:
- Community and Regional.

COMMENTS/ASSUMPTIONS/LIMITATIONS:
- The comments, assumptions and limitations described for the factor in general apply equally to this indicator.
- In one of the sensitivity tests, it is assumed that the arrival of OWMC facilities in West Lincoln will cause a moderate in-

OWMC PHASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

crease (five percent) in overall wage and salary levels similar to more developed municipalities.

INDICATOR:
(2) Net Financial Impact on Regional Municipality.

DEFINITION: This indicator describes the net effect of new OWMC facilities on a regional municipality where a candidate siting option is located in terms of: (1) net municipal revenues (primarily payments-in-lieu of taxes); and (2) municipal costs (primarily operating costs).

This indicator is comprised of three sub-indicators:
- Increase in revenues;
- Decrease in revenues; and
- Increase in operating costs.

RATIONALE/SIGNIFICANCE:
In policy terms, this is a significant indicator as it ranks the siting options in terms of the degree of impact of OWMC facilities on the municipal financial structure of the regional municipalities where siting options are located.

SOURCES OF INFORMATION:
- As listed previously.

INPUTS FROM OTHER CONSULTANTS:
- As listed previously.

STUDY AREA:
- Community and Regional.

OWMC PHASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

COMMENTS/LIMITATIONS/ASSUMPTIONS:

- The comments, limitations and assumptions described for the previous indicator apply.

INDICATOR:

(3) Net Financial Impact on Area Municipal Tax Rate.

DEFINITION: This indicator calculates the percentage increase or decrease in the local mill rate due to the net effect of OWMC facilities on the area municipality, that is, the effect on the local mill rate of Indicator (1).

RATIONALE/SIGNIFICANCE:

In policy terms, this is a significant indicator as it ranks the siting options in terms of the degree of impact of OWMC facilities on the local mill rate. Whether the mill rate increases or decreases is of concern to the taxpayers of the municipality. Unlike the other two indicators, it is a relative not an absolute value and is derived to put the dollar impacts on the municipality into perspective.

SOURCES OF INFORMATION:

- Indicator (1), which provides the dollar value of the net municipal finance impact of OWMC facilities; and
- Financial Information Returns (1983) of the area municipalities.

INPUTS FROM OTHER CONSULTANTS:

- As listed previously.

STUDY AREA:

- Community and Regional.

OWMC PHASE 4A - FACTORS FOR SITE SELECTION

LEAD CONSULTANT: **CLAYTON RESEARCH ASSOCIATES LIMITED**

FACTOR GROUPING:	**FACTOR:**
Environmental Impacts	Municipal Finance

COMMENTS/LIMITATIONS/ASSUMPTIONS:

- The comments, limitations and assumptions described for the previous indicator apply.
- It is assumed in the calculations for this indicator that all other financial characteristics of the municipality are held constant and only the direct and indirect impacts of OWMC facilities on the mill rate are assessed.

APPENDIX B
MUNICIPAL FINANCE IMPACT MODEL

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APPENDIX B
MUNICIPAL FINANCE IMPACT MODEL

INTRODUCTION

This appendix outlines the salient characteristics of the municipal finance impact model employed in the site selection analysis. Figure B-1 provides the general schema of the model used to derive the net impact of OWMC facilities on the finances of a particular municipality.

RATIONALE FOR MODEL SELECTION

The model designed for this assignment represents a quantified version of the framework described in Appendix C.

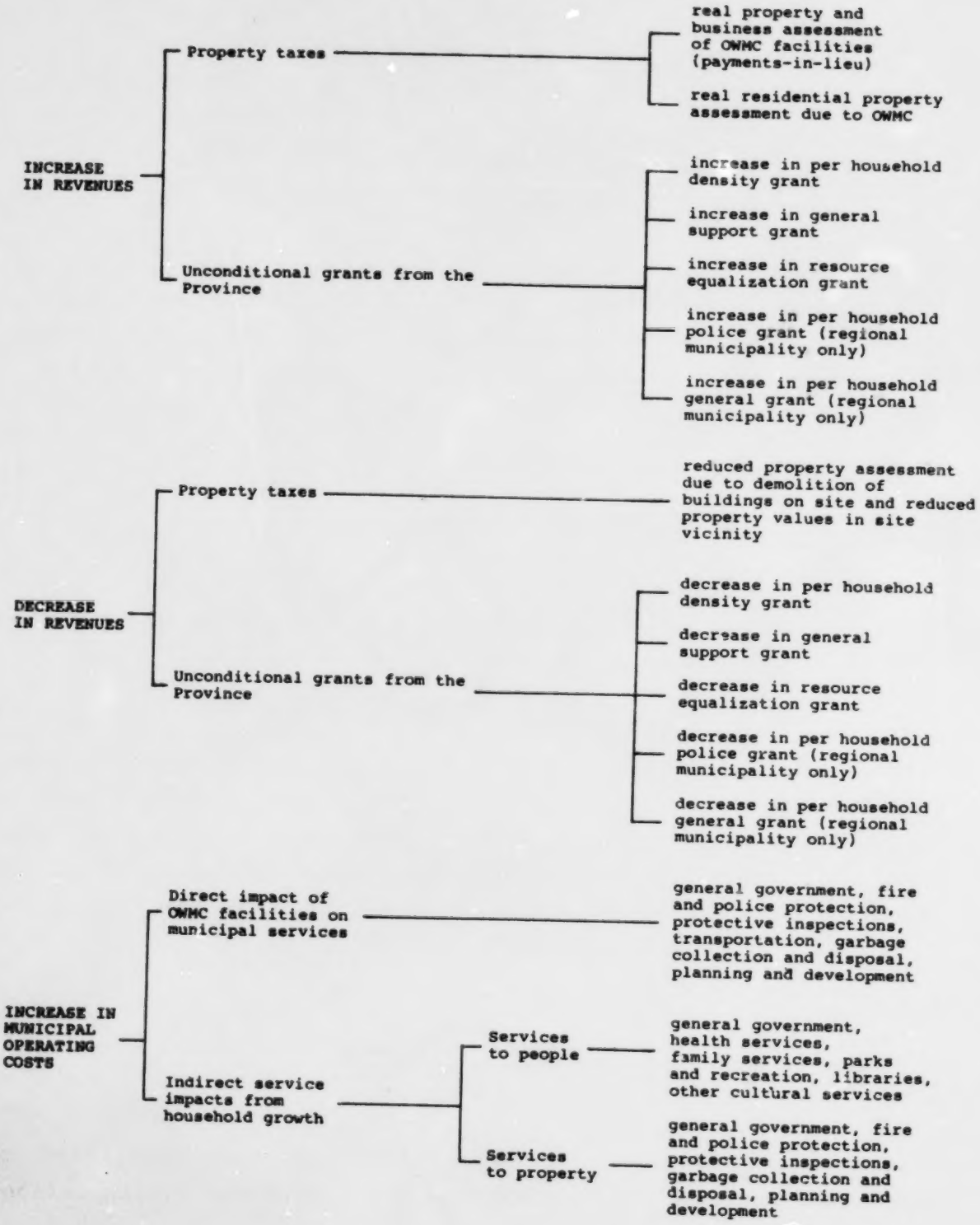
Since the site selection analysis required the study of various siting options by candidate area and regional municipality, the municipal finance impact model was programmed on an IBM Personal Computer to manage the large number of calculations involved. This model has the capability to test "what if" scenarios concerning potential impacts of OWMC facilities on municipal finance.

AN OVERVIEW OF THE MODEL

This section describes the model which has been formulated to assess the municipal finance impacts of alternative siting options

FIGURE B-1

GENERALIZED SCHEMA OF MUNICIPAL FINANCE IMPACT MODEL


INCREASE IN REVENUES
Property taxes
real property and business assessment of OWMC facilities (payments-in-lieu)
real residential property assessment due to OWMC
Unconditional grants from the Province
increase in per household density grant
increase in general support grant
increase in resource equalization grant
increase in per household police grant (regional municipality only)
increase in per household general grant (regional municipality only)
DECREASE IN REVENUES
Property taxes
reduced property assessment due to demolition of buildings on site and reduced property values in site vicinity
Unconditional grants from the Province
decrease in per household density grant
decrease in general support grant
decrease in resource equalization grant
decrease in per household police grant (regional municipality only)
decrease in per household general grant (regional municipality only)
INCREASE IN MUNICIPAL OPERATING COSTS
Direct impact of OWMC facilities on municipal services
general government, fire and police protection, protective inspections, transportation, garbage collection and disposal, planning and development
Indirect service impacts from household growth
Services to people
general government, health services, family services, parks and recreation, libraries, other cultural services
Services to property
general government, fire and police protection, protective inspections, garbage collection and disposal, planning and development

in the candidate area and regional municipalities. The assumptions and procedures outlined here are referred to as the base case scenario.

FEATURES

The features of the municipal finance impact model are as follows:

- Candidate area and regional municipalities are considered separately;
- School boards are not incorporated;
- The financial transactions of municipal boards, commissions and agencies which are consolidated in the published municipal finance statistics are incorporated;
- Exclusive focus on impacts on the revenue fund of the municipalities;
- Revenue fund expenditures exclude debt service costs;
- Capital fund transactions are not incorporated; and
- Measurement of impact in terms of the change in revenues, the change in expenditures and the difference between the change in revenues and expenditures.

STRUCTURE

The model consists of three distinct modules: (1) increase in revenues; (2) decrease in revenues; and (3) increase in municipal operating costs (see Figure B-1). These modules are calculated separately for both the area and regional municipality of each

siting option. As such, the modules represent sub-indicators of the municipal finance indicators - net financial impact on area municipality and net financial impact on regional municipality.

Increase in revenues

The model considers two revenue sources here: (1) property taxes, including business taxes and payments-in-lieu of taxation; and (2) unconditional grants from the Province.*

The model considers increases in property and business tax revenues from two sources: (1) real property and business assessment due to the construction of OWMC facilities; and (2) real property assessment generated by the construction of housing to accommodate the increased number of households attributable to OWMC.

The increase in unconditional grant revenues is the composite of the positive direct and indirect consequences of OWMC facilities on three types of grants:

- Per household grants (including the Per Household Density Grant, the Per Household Police Grant and the Per Household General Grant), which increase when the number of households increases;

- The General Support Grant, which increases along with increases in total own-source revenues of a municipality; and

- The Resource Equalization Grant, which is related to both total revenues of a municipality and equalized assessment per household (and which could decrease if OWMC facilities cause

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* Conditional grants are netted against current expenditures.

the equalized assessment per household to increase or could increase if equalized assessment per household declines).*

Total increases in municipal revenues are the sum of these increases in property tax and unconditional grant revenues.

Decrease in revenues

The model considers two revenue sources here: (1) property taxes, including business taxes; and (2) unconditional grants from the Province.

The decrease in property tax revenues originates from reduced property assessment due to the demolition of existing buildings on the siting option and to the negative impact of OWMC facilities on property values in the site vicinity.

The decrease in unconditional grant revenues is the product of any negative direct and indirect consequences of OWMC facilities on the same grants considered previously.

Total decreases in municipal revenues are the sum of these decreases in property tax and unconditional grant revenues.

Increase in operating costs

The model makes allowance for the direct impact of OWMC facilities on individual municipal services as well as indirect service impacts resulting from the growth in households caused by OWMC facilities. The broad service groupings include general government, fire and police protection, protective inspections, trans-

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* Subject to the ceiling or floor placed on changes in grant revenue by the Province.

portation, garbage collection and disposal, health, social and family services, parks and recreation, libraries and other cultural services and planning and development.

Estimates based on 1983 data were derived for municipal operating costs. For households, the cost factors consist of all people-related service costs and a share of the property-related service costs proportional to the amount of residential assessment to total assessment in the municipality (based on the average market value per residential dwelling). The people-related costs and the residential share of the costs of property-related services are expressed in terms of total municipal operating costs per household.

Net municipal finance impact

The net impact of OWMC facilities on municipal finance under alternative siting options is calculated as the difference between the net change in revenues less the increase in operating costs due directly and indirectly to the facilities:

- The net impact is positive if the net increase in revenues is larger than the growth in operating costs.

- The net impact is negative if the net increase in revenues is less than the growth in operating costs.

FLEXIBILITY

The model allows for the calculation of municipal finance impacts associated with alternative assumptions with respect to the key input variables including: additional assessment for the municipality generated directly by OWMC facilities; the number of additional households indirectly related to the operation of OWMC

facilities; the relative decrease in property values in the site vicinity; the extent to which individual categories of operating costs are affected directly by OWMC facilities; and the average cost per household.

LIMITATIONS OF THE MODEL

Like all impact models, the municipal finance impact model is an approximation of the real world. It does however incorporate all key variables of the municipal finance structure and the impacts of OWMC facilities on that structure.

APPENDIX C

DESCRIPTION OF PROCEDURES FOR ESTIMATING MUNICIPAL FINANCE IMPACT

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APPENDIX C

DESCRIPTION OF PROCEDURES FOR ESTIMATING MUNICIPAL FINANCE IMPACT

INTRODUCTION

This appendix describes in detail the estimating procedure which has been developed for implementing the municipal finance impact model and the implications of alternative siting options. Also, the data sources are outlined. The structure of the model was described in Appendix B and will not be repeated here. The first section of the appendix discusses the base case scenario while the second section deals with alternative scenarios.

PROCEDURES FOR CALCULATING BASE CASE MUNICIPAL FINANCE IMPACT

Municipal finance impacts are measured by the difference between the change in selected revenues directly or indirectly attributable to OWMC facilities less the change in operating costs directly or indirectly attributable to the facilities.

REVENUES

The following revenue sources are estimated in the municipal finance impact model for the area and regional municipalities.

Property tax revenues including payments-in-lieu

- Payments-in-lieu from OWMC facilities; plus

- Taxes on new dwellings generated indirectly by the facilities; less
- Taxes generated from existing uses on the siting option; less
- Reduced taxes due to estimated negative property value impacts in the site vicinity.

Unconditional grant revenues

- Per household grants (the per household density, police and general grants).
- General Support Grant.
- Resource Equalization Grant.

OPERATING COSTS

The following operating costs are estimated in the municipal finance impact model for both area and regional municipalities.

Operating costs directly due to OWMC

- General government.
- Protection to people and property.
- Transportation services.
- Health services.
- Planning and development.

Operating costs due to additional residents

- Services to people.

- Pro rata share of services to property.

REVENUES

CALCULATION OF PAYMENTS-IN-LIEU AND PROPERTY TAX REVENUES FOR AREA MUNICIPALITIES

All revenue calculations are based on the 1983 municipal finance structures of the three area municipalities.

Payments-in-lieu of property and business taxes by OWMC

The calculation of the annual payments-in-lieu of taxes made by OWMC requires the following input information: the area of each siting option by the land classifications applied to the siting option for assessment purposes (e.g., farm land or industrial land); the assessed value per hectare by class of land; the assessed value of the assessable components of the facilities; and the applicable mill rates. Table C-1 contains this input data by siting option.

Site area. Monenco Limited provided data on the total site required for each siting option.

It is assumed that the portion of the siting option to be occupied by the physical/chemical treatment plant and incinerator will be assessed as serviced industrial land, the portion occupied by the landfill as unserviced industrial land and the remainder of each siting option as farm land.

TABLE C-1

INPUT DATA FOR PROPERTY TAX AND PAYMENTS-IN-LIEU CALCULATIONS AREA MUNICIPALITIES BY SITING OPTION, 1983

	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Existing Assessed Value of OWMC Siting Option ($000) (1)						
Residential	0.0	0.0	32.3	3.5	31.1	19.6
Farm	32.9	22.4	49.7	72.4	99.5	89.4
Commercial and Industrial	0.0	0.0	12.4	261.2	0.0	0.0
Business Tax	0.0	0.0	7.4	156.7	0.0	0.0
Total	32.9	22.4	101.8	493.8	130.6	109.0
OWMC Siting Option Proposed Land Area by Assessment Class (Hectares) (2)						
Industrial - Unserviced (Landfill)	62.0	62.0	62.0	62.0	62.0	62.0
Industrial - Serviced (Facilities)	17.4	19.9	17.4	17.7	17.7	17.7
Farm Land - Unused Portion of Site	126.6	53.1	193.6	243.3	263.3	258.3
Total	206.0	135.0	273.0	323.0	343.0	338.0
Assessed Land Values Per Hectare ($) (3)						
Industrial - Unserviced (Landfill)	2,470	2,470	4,550	4,550	4,200	4,200
Industrial - Serviced (Facilities)	4,940	4,940	9,100	9,100	8,400	8,400
Farm Land	178	178	256	256	419	419
Assessed Value of OWMC Facilities Including Land ($000) (3)						
Buildings/Structures	2,771.0	2,771.0	2,587.0	2,587.0	1,345.0	1,345.0
Industrial - Unserviced (Landfill)	153.1	153.1	282.1	282.1	260.4	260.4
Industrial - Serviced (Facilities)	86.0	98.3	158.3	161.1	148.7	148.7
Farm Land	22.5	9.5	49.6	62.3	110.3	108.2
Business Assessment - 30 percent	903.0	906.7	908.2	909.1	526.2	526.2
Total	3,935.6	3,938.6	3,985.2	4,001.6	2,390.6	2,388.5
Reduction in Assessed Values for Properties in 1,500 Metre Zone ($000) (1)	43.9	41.8	59.1	99.2	79.9	107.0
Estimated Households Generated by OWMC Facilities	67	60	116	125	77	77
Average Residential Assessment Per Household ($) (3)	2,306	2,306	3,880	3,880	4,572	4,572
Mill Rates, 1983 (Mills) (3)						
Residential and Farm	51.79	51.79	61.50	61.50	46.27	46.27
Commercial and Industrial	60.93	60.93	72.35	72.35	54.44	54.44

Sources: (1) Municipal Assessment Rolls of the candidate municipalities.
(2) Monenco Limited.
(3) Ministry of Revenue.

Monenco Limited provided estimates of the siting option area to be occupied by the physical/chemical treatment plant, the incinerator and associated facilities and an estimate of the portion of each siting option which would be occupied by the engineered landfill and ancillary facilities at year ten.

Assessed land value per hectare. The assessed value per hectare of land within the siting option that remains farm land is based on the average assessed value of farm land currently at each siting option (OWMC facilities are assumed not to change the existing per hectare assessed value of farm land). For serviced and unserviced industrial land, the average assessed value per hectare was based on information provided by the Special Properties Branch of the Ministry of Revenue.*

Assessed value of OWMC facilities subject to assessment. The assessed values of the portions of the siting options designated in the municipal finance impact analysis as serviced and unserviced industrial land and farm land are derived by multiplying the number of hectares by the average assessed value per hectare for these classes of land.

The estimated assessed value of the facilities excluding land was estimated by the Ministry of Revenue in consultation with Clayton Research Associates based on cost and facility information provided by Monenco Limited. The costs in 1984 dollars of the assessable portions of the facilities (e.g., buildings, the stack and parking lots) are estimated by Monenco Limited to be some $58 million (out of a total plant investment of some $192 million). The actual assessment in each municipality depends on the actual

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* Mr. Jack Ross, Senior Manager, Industrial and Exempt Valuation Unit, Ministry of Revenue, July 15; July 23; and Aug. 14, 1985.

assessment base in place in the area municipality (West Lincoln is on a 1940 base, Niagara Falls a 1982 base and Milton a 1980 base).

Based on Ministry of Revenue input, it is assumed that OWMC facilities will be assessed for purposes of payments-in-lieu of business taxes at 30 percent of the assessed value of buildings and industrial land.

The assessment figures are estimates (at this stage) and are subject to change when construction of the facilities has been completed.

Payments-in-lieu of property taxes. The payments-in-lieu of property taxes are calculated by applying the 1983 general mill rate for commercial and industrial property to the assessed values.

Indirect property tax revenues for area municipalities. Property tax revenues are generated from the new dwellings built to accommodate the additional households in each of the area municipalities in which the siting options are located.

Average residential assessment per household. The average residential assessment per household is calculated by dividing total residential assessment by the number of households in the area municipality. Households are defined for purposes of the municipal assessment roll to include all dwellings whether occupied or vacant. The information was obtained from the Financial Information Returns of the candidate municipalities.

The average assessment per household is used to determine the property tax revenues generated by each additional household attributable to the development of OWMC facilities. While new housing generally has higher valuation than existing housing, use of the overall average for the municipality allows for the fact

that some of the new households will be accommodated in vacant units.

Property taxes. Property tax revenues resulting from these households is calculated by applying the residential mill rate to the assessed value of the new residential property generated.

Loss in property tax revenues from existing uses on OWMC siting options

The area municipalities face reduced tax revenues as a result of the replacement of the existing uses with OWMC facilities for the various siting options. This revenue loss is calculated by multiplying the existing assessed values by the appropriate mill rates.

Loss in property tax revenues due to negative property value impacts in the site vicinity

Decline in assessed values. The report Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, estimated that aggregate property values in the site vicinity could decline by up to eight percent due to the presence of OWMC facilities. It is assumed that the assessed values of the affected properties decline in the same proportion as their market values.

Reduced property tax revenues. The reduction in tax revenues from properties in the site vicinity is calculated by applying the appropriate mill rates to the reduction in assessed values.

CALCULATION OF PAYMENTS-IN-LIEU AND PROPERTY TAX REVENUES FOR REGIONAL MUNICIPALITIES

The two regional municipalities also benefit from added payments-in-lieu and property tax revenues as a result of the construction of OWMC facilities and the housing construction these facilities

indirectly generate. The regional municipalities will also lose revenues from the loss of structures on the siting options as well as through the expected negative property value impacts in the site vicinity.

Payments-in-lieu of property and business taxes by OWMC

The regional municipalities in contrast to the area municipalities, do not impose a mill rate per se on the assessed value of taxable real property and businesses. Instead, a regional municipality apportions its tax requirements among area municipalities on the basis of their share of weighted equalized taxable assessment in the region (including equivalent assessment on exempt properties for which payments-in-lieu are made). Hence, if area municipality A has ten percent of the region's weighted equalized assessment, the resident taxpayers pay ten percent of the property taxes levied by the region.

The calculation of payments-in-lieu and property taxes for the regional municipalities involves three steps. Background information for these calculations is shown in Table C-2.

- Discounted equalized assessment: The actual assessment generated by OWMC facilities and the indirectly related assessment (housing) resulting from the facilities in each area municipality as well as in the rest of the region is converted to weighted equalized assessment by applying weighting and equalization factors provided by the Ministry of Revenue.

- Effective tax rate for regional purposes and regional revenues: The effective tax rate is defined as the total regional requisition for general purposes as a proportion of the total weighted equalized assessment in the region. Payments-in-lieu and property taxes generated directly and indirectly

TABLE C-2

INPUT DATA FOR PROPERTY TAX AND PAYMENTS-IN-LIEU CALCULATIONS
REGIONAL MUNICIPALITIES BY SITING OPTION, 1983

	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Assessment ($000) (1)						
OWMC Facilities	3,935.6	3,938.6	3,985.2	4,001.6	2,390.6	2,388.5
New Households - in area municipality	154.5	138.4	450.1	485.0	352.0	352.0
- in remainder region	256.1	349.2	190.1	205.6	434.4	434.4
Decrease in Assessment ($000) (2)						
Displacement	(24.3)	(22.4)	(101.8)	(493.4)	(130.6)	(109.0)
Negative Property Value Impacts	(43.9)	(41.8)	(59.1)	(99.2)	(79.9)	(107.0)
Change in Discounted Assessment ($000)						
OWMC Facilities	3,935.6	3,938.6	3,985.2	4,001.6	2,390.6	2,388.5
New Households	69.0	61.8	200.9	216.5	178.7	178.7
Displacement	(10.8)	(10.0)	(45.4)	(220.2)	(66.3)	(55.3)
Negative Property Value Impacts	(19.6)	(18.7)	(26.4)	(44.3)	(40.6)	(54.3)
Total	3,974.2	3,971.7	4,114.3	3,953.6	2,462.4	2,457.6
New Households Elsewhere in Region	114.3	155.9	84.9	91.8	220.5	220.5
Change in Region's Discounted Equalized Assessment ($000)	54,387.8	54,707.7	35,677.1	34,370.4	31,600.7	31,544.2
Effective Tax Rate for Regional Purposes (Mills)	6.65	6.65	6.67	6.67	4.29	4.29

Sources: (1) Ministry of Revenue.
(2) Municipal Assessment Rolls of the candidate municipalities.

by OWMC facilities are calculated by multiplying the increase in weighted equalized assessment by the effective tax rate.

- Loss of property tax revenues: The revenues lost from existing uses on the siting options, as well as from reduced property values in the site vicinity, are calculated in a similar method as the revenue gains. Revenue losses are calculated by applying the average effective regional tax rate to the weighted equalized assessment loss for each siting option.

Area and regional municipality revenues from unconditional grants excluding the Resource Equalization Grant

Area municipalities receive the Per Household Density Grant and the General Support Grant. Regional municipalities receive the Per Household General Grant and the Per Household Police Grant as well as the General Support Grant. Table C-3 provides the key input for the calculation of these grants.

Per Household Density Grant. The density of an area municipality is defined as the ratio of residential households to its land area in hectares. The Per Household Density Grant in 1983 and 1985 was based on the following schedule:

Density	Amount Per Capita 1983	Amount Per Household 1985
0.375 and under	$5.00	$14.00
Over 0.375 to and including 0.750	4.00	11.20
Over 0.750 to and including 1.125	3.00	8.40
Over 1.125 to and including 1.500	2.00	5.60
Over 1.500 to and including 1.875	1.00	2.80
Over 1.875	Nil	Nil

Source: Ministry of Municipal Affairs and Housing, Provincial Assistance to Municipalities, Boards and Commissions, 1983 and 1985.

TABLE C-3

INPUT DATA FOR CALCULATIONS OF UNCONDITIONAL GRANTS EXCLUDING RESOURCE EQUALIZATION GRANT FOR AREA AND REGIONAL MUNICIPALITIES BY SITING OPTION, 1983

	Siting Option					
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
AREA MUNICIPALITIES						
Size of Area Municipality (Hectares) (1)	37,509	37,509	20,447	20,447	37,089	37,089
Households (2) (3)						
Before OWMC	2,971	2,971	26,404	26,404	9,359	9,359
With OWMC	3,038	3,031	26,520	26,529	9,436	9,436
Net General Dollar Levy for General Support Grant Purposes ($000) (3)						
Before OWMC	1,283.7	1,283.7	20,529.1	20,529.1	4,809.2	4,809.2
With OWMC	1,478.3	1,479.1	20,770.9	20,770.9	4,920.2	4,920.2
Density (Households per square kilometre)						
Before OWMC	0.0789	0.0789	1.2913	1.2913	0.2523	0.2523
With OWMC	0.0789	0.0789	1.2913	1.2913	0.2523	0.2523
REGIONAL MUNICIPALITIES						
Households (2) (3)						
Before OWMC	138,965	138,965	138,965	138,965	83,789	83,789
After OWMC	139,098	139,115	139,130	139,143	83,961	83,961
Net General Dollar Levy for General Support Grant Purposes ($000) (3)						
Before OWMC	2,389.5	2,389.5	3,4287.7	3,4287.7	9,136.8	9,136.8
After OWMC	2,584.2	2,585.0	3,4388.3	3,4387.5	9,201.4	9,201.4

Sources: (1) Ministry of Municipal Affairs of Housing, Municipal Directory, 1985.
(2) Clayton Research Associates, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985.
(3) Financial Information Returns of the candidate municipalities.

The per household grant revenue resulting from OWMC facilities to the area municipalities is calculated by multiplying the new households by the appropriate grant revenue per household.

General Support Grant. The General Support Grant for both the area and regional municipality is calculated by applying a 5.75 percent grant rate to the net general dollar levy for each municipality. The levy amount prior to the location of OWMC facilities is subtracted from the levy after their location to derive the grant revenue resulting from the facilities.

Per Household General and Police Grants. Revenues from these grants are derived by applying the dollar amount of the grant per household ($30 and $50, respectively) to the new households in the region generated by OWMC facilities.

The Resource Equalization Grant

The Resource Equalization Grant is designed to reinforce the fiscal capacity of municipalities with a below-average assessment base. The essential concept of the grant is simple:*

- Resource equalization grant revenue is payable only to area municipalities which had a per household equalized assessment of less than $57,000 for 1985.

- There is a maximum grant rate (referred to as the assessment deficiency rate) which is applied to 60 percent of the relative deficiency between equalized assessment per household in the municipality and $57,000. However, the assessment deficiency rate cannot exceed 25 percent.

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* References are to the grant characteristics for the year 1985.

- The grant rate is applied to total locally raised revenues for area and regional purposes (technically referred to as the net general dollar levy).*

- A share of the grant revenues is passed on to the regional municipality based on the regional share of area and regional taxes levied on commercial and industrial property including business assessment in the area municipality.

More details of the calculations for the Resource Equalization Grant are provided below. Table C-4 provides the base input data.

Per household discounted equalized assessment. The equalized assessment per household calculation represents the total of taxable residential, commercial and industrial assessment, including business assessment, equivalent assessment for non-taxable property on which payments-in-lieu are received and also telegraph and telephone revenues received. The equalized assessment is then discounted by 45 percent to recognize that residential properties are taxed at a lesser proportion of market value than commercial and industrial property. The resulting discounted equalized assessment is then expressed in per household terms.

The discount and equalization factors are then applied to the total equalized assessment, including the assessment attributable to OWMC and divided by the total population, including population due to OWMC.

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* The definition of net general dollar levy is the same as for the General Support Grant with the exception that the net general dollar levy of both the area municipality and funds raised by the region from the area municipality are combined.

TABLE C-4

INPUT DATA FOR CALCULATIONS OF RESOURCE EQUALIZATION REVENUES
AREA MUNICIPALITIES BY SITING OPTION, 1983

	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Per Household Discounted Equalized Assessment ($)						
Without OWMC	51,388	51,388	52,790	52,790	64,139	64,139
With OWMC	67,242	67,307	53,936	53,932	66,707	66,707
Relative Assessment Deficiency (%)						
Without OWMC	4.8	4.8	2.2	2.2	0.0	0.0
With OWMC	0.0	0.0	0.1	0.1	0.0	0.0
Net General Dollar Levy for Resource Equalization Grant Purposes ($000)						
Without OWMC	2,389.5	2,389.5	34,287.7	34,287.7	9,136.8	9,136.8
With OWMC	2,584.2	2,585.0	34,388.3	34,387.5	9,201.4	9,201.4
Ratio of Area Municipal Taxes to Combined Area and Regional Taxes on Commercial, Industrial and Business Assessment						
With or Without OWMC	0.5455	0.5455	0.5630	0.5630	0.5455	0.5455

Source: Calculations for conditional grants, Ministry of Municipal Affairs and Housing.

Relative assessment deficiency. For 1985, the relative assessment deficiency was the difference between the discounted equalized assessment per capita in a municipality and the Provincial standard of $57,000 per household expressed in percentage terms. Only municipalities with a per household assessment figure less than the Provincial standard are eligible for revenue under this grant.

Assessment deficiency rate. The assessment deficiency rate is the lesser of: (1) 60 percent of the relative assessment deficiency or; (2) 25 percent below the Provincial standard of discounted equalized assessment.

Calculation of grant revenue. The grant revenue, if there were no restrictions, would be calculated by multiplying the net general dollar levy by the assessment deficiency rate. However, in recent years the Province has put restrictions on the yearly increase in resource equalization grant revenue in individual municipalities. For 1985, the rise in total revenues received has been restricted to $1.25 per household over the 1984 revenues.

Revenue guarantee

The Province for 1985 ensures that all municipalities receive at least two percent more in total unconditional grant revenue for 1985 than was received in 1984. Once all the calculations of OWMC facilities impacts on unconditional grant revenues were calculated and assessed, it was determined the facilities would not alter the unconditional grant revenues received by any of the area or regional municipalities. This finding hinges on the structure of the 1985 grant structure which can (and likely will) change over time.

OPERATING COSTS

There are two distinct groupings of operating costs that are estimated: the operating costs directly attributable to OWMC facilities and the operating costs due to additional residents in the candidate municipalities resulting from OWMC facilities. It will be recalled that the cost estimates (as well as revenue estimates) pertain to OWMC facilities in their tenth year of operation with a capacity to process 300,000 tonnes of special wastes annually.

OPERATING COSTS INDIRECTLY DUE TO OWMC FACILITIES

The rise in operating costs which are indirectly attributable to OWMC facilities are the costs associated with the additional households generated by the facilities. Operating costs in the base case analysis exclude debt service charges. They also exclude sewer and water outlays. Table C-5 presents the input data used in the calculation of the operating costs.

Services to households and residential property

The first step in estimating operating costs was to separate municipal services between services primarily benefiting people and services primarily benefiting property. The total spending on services to property is divided by the ratio of residential to total equalized value of all taxable properties to derive an estimate of the costs to service residential properties only.

TABLE C-5

INPUT DATA FOR CALCULATION OF OPERATING COSTS INDIRECTLY DUE TO OWMC FACILITIES AREA AND REGIONAL MUNICIPALITIES, 1983

	Area Municipalities			Regional Municipalities	
	Milton	Niagara Falls	West Lincoln	Halton	Niagara
Services to People ($000) (1)					
Health and Family Services	0.0	908.0	15.9	6,310.7	15,128.9
Recreation and Cultural Services	1,533.9	3,926.9	166.6	331.6	200.0
Total	1,533.9	4,834.9	182.5	6,642.3	15,328.9
Services to Property ($000) (1)					
General Government	724.3	2,849.5	283.4	3,683.7	6,161.3
Protection	679.5	4,940.0	75.2	13,020.6	24,747.6
Transportation	1,604.0	5,274.3	508.5	1,854.5	4,217.7
Planning and Development	212.5	845.3	26.0	1,273.8	1,266.7
Garbage Collection and Disposal	355.4	1,590.9	143.3	1,456.7	0.0
Total	3,575.7	15,500.0	1,036.4	21,289.3	36,393.3
Ratio of Residential to Total Market Value of Property (%) (2)	54.7	63.0	32.1	70.1	66.7
Total Households Excluding OWMC-Induced Households	9,359	26,404	2,971	83,789	138,965

Source: (1) Financial Information Returns of candidate municipalities.
(2) Ministry of Revenue.

Operating costs per household

The costs of providing services to people and the estimated costs of providing services to residential properties are combined and divided by the number of households excluding households generated by OWMC facilities. The result is an estimated average operating cost per household for each candidate municipality.

OPERATING COSTS DIRECTLY DUE TO OWMC FACILITIES

For purposes of estimating the costs incurred by the area and regional municipalities to provide services to OWMC facilities, it was first necessary to identify the services likely to be affected by the planned facilities. These are general government, transportation services, fire and police protection, protective inspections, health services and planning and development.

Tables C-6 and C-7 present the estimated municipal costs associated with the provision of these services to the facilities. Each of these services are discussed below.

General government

Both the area and regional municipalities are likely to experience ongoing general government expenses due to the presence of OWMC facilities, with these costs being higher for the area municipalities. These costs will likely be attributed to accommodating requests for information, liaison and meetings with OWMC personnel as well as staff members to discuss OWMC-related matters. These matters are likely to be of greater importance for the area municipality.

For purposes of cost estimation, it is assumed that the general government costs are equivalent to one-half of a senior

TABLE C-6

ESTIMATED DIRECT COSTS DUE TO ONMC FACILITIES
FOR AREA MUNICIPALITIES BY SITING OPTIONS, 1983 ($000)

Type of Cost	Rationale	West Lincoln		Niagara Falls		Milton	
		LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
General Government	Equivalent to one-half of senior employee costing $60,000 per year (wages and benefits).	30	30	30	30	30	30
Fire Protection	Equivalent to one-quarter time of senior employee costing $60,000 per year (wages and benefits).	15	15	15	15	15	15
Protective Inspections	Assumed at $5,000 per year.	5	5	5	5	5	5
Transportation Services	Assumed to be equivalent to 50 percent of average operating cost per kilometre of local access roads.	2	0	7	7	9	9
Planning and Development	Equivalent to one-third time of senior employee costing $60,000 per year (wages and benefits).	20	20	20	20	20	20
Total Costs		72	70	77	77	79	79

TABLE C-7

ESTIMATED DIRECT COSTS DUE TO OWMC FACILITIES
FOR REGIONAL MUNICIPALITIES BY SITING OPTION, 1983 ($000)

Type of Cost	Rationale	Niagara				Halton	
		LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
General Government	Equivalent to one-quarter time of senior employee costing $60,000 per year (wages and benefits).	15	15	15	15	15	15
Police Protection	Equivalent to one-third time of senior employee costing $60,000 per year (wages and benefits); allowance in West Lincoln for greater distance from police station.	25	25	20	20	20	20
Health Services	Equivalent to one-half time of senior employee costing $60,000 per year (wages and benefits).	30	30	30	30	30	30
Transportation Services	Assumed to be equivalent to 50 percent of average operating cost per kilometre of regional access roads.	43	36	5	5	28	38
Planning and Development	Equivalent to one-quarter time of senior employee costing $60,000 per year (wages and benefits).	15	15	15	15	15	15
Total Costs		128	121	85	85	108	118

employee's time costing $60,000 per year (wages plus benefits) in the area municipality and one-quarter of a senior employee's time at the regional level.

Transportation services

The direct road costs were calculated in the following manner: first, the average net operating cost per kilometre of road was calculated for each candidate municipality; second, the length of local (area) or regional roads required for access to each of the siting options was determined (estimates provided by M.M. Dillon Limited); and finally, it was assumed that OWMC facilities would increase the operating costs per kilometre of access road by 50 percent. This latter cost is then included in the municipal finance impact analysis.

TABLE C-8

CALCULATION OF ADDITIONAL OPERATING COSTS FOR ROADS DUE TO OWMC FACILITIES

	Area Roads			Regional Roads		
	Average Net Operating Cost Per Kilometre	Length of Access Road	Calculated Additional Cost*	Average Net Operating Cost Per Kilometre	Length of Access Road	Calculated Additional Cost*
	$	km	$	$	km	$
LF-3C	1,341	3.5	2,347	4,463	19.2	42,845
LF-9C	1,341	0.0	0	4,463	16.2	36,150
LF-1E	7,827	1.8	7,044	4,463	2.1	4,686
LF-1E/PI-27E	7,827	1.8	7,044	4,463	2.1	4,686
LF-4N/PI-1N	4,082	4.2	8,572	7,559	7.4	27,968
LF-4N/PI-13N	4,082	4.2	8,572	7,559	10.0	37,795

* Length times net cost divided by two.

Source: M.M. Dillon Limited and Financial Information Returns of the candidate municipalities.

Fire protection

Since OWMC intends to provide on-site fire protection facilities, the impact on the area municipality will be less pronounced than would otherwise be the case. However, there is likely to be some additional costs for the area municipality for education and training of some staff in chemical-related spills and fires, as

well as to liaise with OWMC. These costs are assumed to be equivalent to the cost of one-quarter of a senior employee's time (whose annual cost is $60,000).

Police protection

Again, since OWMC facilities will have an on-site security force, they should not require much policing services from the candidate regional municipality other than periodic surveillance of the facilities. It is assumed that the additional costs will be equivalent to one-half the annual costs of the average compensation paid to all police employees for 1983 (average annual costs are $34,573 in Halton and $37,269 in Niagara). A slight upward adjustment is made for the West Lincoln siting options to allow for the greater distance from the nearest police station which is located in the Town of Grimsby.

Protective inspections

OWMC facilities could result in modest costs for protective inspections on the part of the area municipality (e.g., building and structural inspections, fence viewing, by-law enforcement, etc.). A sum of $5,000 is assumed for these services.

Health services

There are likely to be increased costs for public health services and inspections to the candidate regional municipalities resulting from the facilities. These might relate to liaison with OWMC and provincial health officials and reviewing health monitoring reports.

A cost equivalent to one-half of a senior employee's time is allocated for these health services.

Planning and development

Both the area and regional municipality (especially the former) could face increased expenses for planning and development as a result of OWMC facilities. For example, increased monitoring could be required with respect to adjacent properties and, perhaps, the enforcement of land use controls near the facilities.

It is assumed that these costs will be equivalent to one-third of a senior employee's time for the area municipality and one-quarter of a senior employee's time for the regional municipality.

ALTERNATIVE SCENARIOS

Tables C-9 through C-22 on the following pages present the municipal finance impact results for area and regional municipalities under alternative scenarios. The key changes in the municipal finance impact results will be briefly highlighted for area and regional municipalities under each scenario.

150,000 TONNE CAPACITY

The following are the key assumptions of the 150,000 tonne capacity scenario:

- The assessed value of OWMC facilities will be 20 percent lower.
- The engineered landfill will occupy 58.4 hectares instead of 62.0 hectares.
- An additional 3.6 hectares will be assessed as farm land.

- The number of new households generated in the area and regional municipalities will be lower.*

The implications on the municipal finance of area municipalities under this scenario revealed that payments-in-lieu from OWMC declined from the base case scenario while decreases in property tax revenues generated by additional households was offset by declines in operating costs (new household costs).

The implications on regional municipalities were similar to that of area municipalities.

PARTIAL SOLIDIFICATION

The following are the key assumptions of the partial solidification scenario:

- The assessed value of OWMC facilities increases by $28,000 for West Lincoln siting options, $99,800 for Milton siting options and $30,000 for Niagara Falls siting options.

- The engineered landfill will occupy 53.0 hectares instead of 62.0 hectares.

- An additional 9.0 hectares will be assessed as farm land.

- The negative property value impacts will represent the highest levels recorded in a literature search of property value impacts for the report, Site Selection Process Phase 4A:

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* The number of new households generated for the various siting options are presented in the report, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985, Clayton Research Associates.

Selection of a Preferred Site(s) - Economic Base Analysis, 1985, Clayton Research Associates.

- The number of households responding to a questionnaire indicating their intention to move if OWMC facilities were constructed near their home.*

The results of the partial solidification scenario compared to the base case scenario did not reveal any significant differences. For both area and regional municipalities, for siting options in West Lincoln and Niagara Falls, property taxes generated by additional households declined slightly (out-migration) and payments-in-lieu from OWMC generally remained similar to the base case scenario. The Milton siting options experienced a marginal increase in payments-in-lieu from OWMC at the area and regional municipality level. However, any declines in revenues were offset by declines in operating costs resulting from out-migration.

MAXIMUM NEGATIVE PROPERTY VALUE IMPACT AND OUT-MIGRATION

The following are the key assumptions of the maximum negative property value impact and out-migration scenario:

- The negative property value impacts will represent the highest levels recorded in a literature search of property value impacts for the report, Site Selection Process Phase 4A: Selection of a Preferred Site(s) - Economic Base Analysis, 1985, Clayton Research Associates.

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* Households within two kilometres of candidate siting option. The Institute of Environmental Research conducted the interview during their portion of the Phase 4A "Walk and Talk" program.

- The number of households responding to a questionnaire indicating their intention to move if OWMC facilities were constructed near their home.*

The impacts on both area and regional municipalities were similar. Property taxes from households indirectly generated by OWMC declined marginally (less households) and the revenues lost due to negative property value impacts rose marginally. However, due to the lower level of households than the base case scenario, operating costs were slightly lower.

ENTIRE SITING OPTION ASSESSED AS INDUSTRIAL LAND

The following is the key assumption of the entire siting option assessed as industrial land scenario:

- All land previously assessed as farm land would now be assessed as unserviced industrial.

The results of the analysis reveal that payments-in-lieu from OWMC rise significantly. Siting options that contain a large quantity of land assessed as farm land under the base case scenario incur the greatest increase. At the regional level for the Milton siting options, the fiscal deficit that occured in the base case scenario has shifted into a surplus due to the large amounts of land assessed as farm land for these options.

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* Households within two kilometres of candidate siting option. The Institute of Environmental Research conducted the interview during their portion of the Phase 4A "Walk and Talk" program.

NO BUSINESS TAX

The following is the key assumption of the no business tax scenario:

- OWMC does not pay a 30 percent business tax on the operation of its facilities.

The municipal finance impacts under the no business tax scenario represent a significant difference from the base case scenario. Payments-in-lieu from OWMC decline substantially for both area and regional municipalities. The result is less favorable positive impacts on all siting options with the deficit at the regional municipality level for the two Milton siting options increasing also.

INCREASED WAGE AND SALARY LEVEL IN WEST LINCOLN

The following is the key assumption of the increased wage and salary level in West Lincoln scenario:

- Total wages and salaries will increase five percent for municipal employees of West Lincoln as a result of OWMC facilities. From the Financial Information Returns of the Township of West Lincoln for 1983, a five percent increase represented $38,394 in additional wage and salary costs for the municipality.

The only municipal finance impact under this scenario is a substantial increase in the operating costs directly attributable to OWMC for the two West Lincoln siting options at the area municipality level. However, the two siting options still remain the most preferred options though the positive impacts have been diminished.

DEBT CHARGES INCLUDED

The following is the key assumption of the debt charges included scenario:

- Debt charges resulting from road, sanitary sewer and water main construction are included in the calculation of operating costs for area and regional municipalities.

The municipal finance impact under this scenario represents a small increase in the operating costs indirectly attributable to OWMC for both area and regional municipalities. However, the overall impacts do not vary significantly when compared to the base case scenario.

TABLE C-9

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION
150,000 TONNE CAPACITY SCENARIO, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	195.0	195.6	237.6	238.6	109.2	109.1
Property taxes from households indirectly generated by OWMC	5.4	4.9	18.9	20.0	11.2	11.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.3	-2.2	-3.6	-6.2	-3.7	-4.9
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	196.4	197.1	246.4	217.5	110.7	110.4
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	6.9	6.3	40.9	43.5	14.9	14.9
Total	78.9	76.3	117.9	120.5	93.9	93.9
Net Increase in Revenues Less Increase in Operating Costs ($000)	117.5	120.8	128.5	97.0	16.8	16.5
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	12.5	12.9	1.0	0.8	0.5	0.5

TABLE C-10

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION 150,000 TONNE CAPACITY SCENARIO, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	283.8	287.2	186.6	187.5	102.2	102.1
Property taxes from households indirectly generated by OWMC	8.5	9.7	11.1	11.8	13.7	13.7
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.2	-2.1	-2.3	-3.9	-2.5	-3.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	288.5	293.7	191.3	173.4	109.3	109.0
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	27.4	31.1	34.4	36.6	40.2	40.2
Total	155.4	152.1	119.4	121.6	148.2	158.2
Net Increase in Revenues Less Increase in Operating Costs ($000)	133.1	141.6	71.9	51.8	-38.9	-49.2

TABLE C-11

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION MAXIMUM NEGATIVE PROPERTLY VALUE IMPACT AND OUT-MIGRATION SCENARIO, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	239.6	239.9	287.8	288.8	129.2	129.1
Property taxes from households indirectly generated by OWMC	6.3	6.2	25.5	27.0	13.5	12.7
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-3.3	-3.1	-6.1	-9.7	-6.3	-9.5
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	240.9	241.8	300.7	271.2	130.4	127.3
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	8.1	7.9	55.4	58.5	18.0	16.8
Total	80.1	77.9	132.4	135.5	97.0	95.8
Net Increase in Revenues Less Increase in Operating Costs ($000)	160.8	163.9	168.3	135.7	33.4	31.5
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	17.1	17.5	1.4	1.1	1.0	0.9

TABLE C-12

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION MAXIMUM NEGATIVE PROPERTY VALUE IMPACT AND OUT-MIGRATION SCENARIO, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	351.7	352.0	225.8	226.8	120.8	120.7
Property taxes from households indirectly generated by OWMC	11.3	13.6	15.3	16.3	18.7	18.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-3.1	-2.9	-3.9	-6.1	-4.3	-6.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	358.3	361.6	233.1	215.0	131.1	129.1
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	36.3	43.3	47.6	50.6	54.6	53.2
Total	164.3	164.3	132.6	135.6	162.6	171.2
Net Increase in Revenues Less Increase in Operating Costs ($000)	194.0	197.3	100.5	79.4	-31.5	-42.1

TABLE C-13

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION PARTIAL SOLIDIFICATION SCENARIO, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	240.1	240.4	286.9	288.0	133.8	133.7
Property taxes from households indirectly generated by OWMC	6.3	6.2	25.5	27.0	13.5	12.7
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-3.3	-3.1	-6.1	-9.7	-6.3	-9.5
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	241.4	242.3	299.8	270.4	135.0	131.9
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	8.1	7.9	55.4	58.5	18.0	16.8
Total	80.1	77.9	132.4	135.5	97.0	95.8
Net Increase in Revenues Less Increase in Operating Costs ($000)	161.3	164.4	167.4	134.9	38.0	36.1
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	17.2	17.5	1.4	1.1	1.0	0.9

TABLE C-14

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION PARTIAL SOLIDIFICATION SCENARIO, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	352.6	352.9	225.2	226.1	125.1	125.0
Property taxes from households indirectly generated by OWMC	11.3	13.6	15.3	16.3	18.7	18.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-3.1	-2.9	-3.9	-6.1	-4.3	-6.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	359.2	362.5	232.5	214.3	135.4	133.4
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	36.3	43.3	47.6	50.6	54.6	53.2
Total	164.3	164.3	132.6	135.6	162.6	171.2
Net Increase in Revenues Less Increase in Operating Costs ($000)	194.9	198.2	99.9	78.7	-27.2	-37.8

TABLE C-15

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION
ENTIRE SITING OPTION ASSESSED AS INDUSTRIAL LAND SCENARIO, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	263.2	249.8	367.6	389.1	202.4	200.9
Property taxes from households indirectly generated by OWMC	8.0	7.2	27.7	29.8	16.3	16.3
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.3	-2.2	-3.6	-6.2	-3.7	-4.9
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	267.2	253.6	385.2	377.8	209.0	207.3
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	10.2	9.2	60.0	64.7	21.6	21.6
Total	82.2	79.2	137.0	141.7	100.6	100.6
Net Increase in Revenues Less Increase in Operating Costs ($000)	185.0	174.4	248.2	236.1	108.4	106.7
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	19.7	18.6	2.0	1.9	3.2	3.1

TABLE C-16

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION ENTIRE SITING OPTION ASSESSED AS INDUSTRIAL LAND SCENARIO, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	386.1	366.4	287.9	304.8	187.9	186.5
Property taxes from households indirectly generated by OWMC	12.6	14.3	16.2	17.5	20.2	20.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.2	-2.1	-2.3	-3.9	-2.5	-3.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	394.9	377.5	297.7	296.4	201.5	199.9
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	40.5	45.7	50.3	54.3	59.1	59.1
Total	168.5	166.7	135.3	139.3	167.1	177.1
Net Increase in Revenues Less Increase in Operating Costs ($000)	226.4	210.8	162.4	157.1	34.4	22.8

TABLE C-17

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION NO BUSINESS TAX SCENARIO, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	184.6	184.7	222.1	223.1	100.6	100.5
Property taxes from households indirectly generated by OWMC	8.0	7.2	27.7	29.8	16.3	16.3
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.3	-2.2	-3.6	-6.2	-3.7	-4.9
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	188.6	188.5	239.7	211.8	107.2	106.9
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	10.2	9.2	60.0	64.7	21.6	21.6
Total	82.2	79.2	137.0	141.7	100.6	100.6
Net Increase in Revenues Less Increase in Operating Costs ($000)	106.4	109.3	102.7	70.1	6.6	6.3
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	11.3	11.6	0.8	0.6	0.2	0.2

TABLE C-18

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION NO BUSINESS TAX SCENARIO, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	271.1	271.0	174.4	175.3	94.2	94.1
Property taxes from households indirectly generated by OWMC	12.6	14.3	16.2	17.5	20.2	20.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.2	-2.1	-2.3	-3.9	-2.5	-3.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	279.9	282.1	184.2	166.9	107.8	107.5
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	40.5	45.7	50.3	54.3	59.1	59.1
Total	168.5	166.7	135.3	139.3	167.1	177.1
Net Increase in Revenues Less Increase in Operating Costs ($000)	111.4	115.4	48.9	27.6	-59.3	-69.6

TABLE C-19

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION INCREASED WAGE AND SALARY LEVEL IN WEST LINCOLN SCENARIO, 1983*

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	239.6	239.9	287.8	288.8	129.2	129.1
Property taxes from households indirectly generated by OWMC	8.0	7.2	27.7	29.8	16.3	16.3
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.3	-2.2	-3.6	-6.2	-3.7	-4.9
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	243.6	243.7	305.4	277.5	135.8	135.5
Increase in Operating Costs ($000)						
Directly attributable to OWMC	110.4	108.4	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	10.2	9.2	60.0	64.7	21.6	21.6
Total	120.6	117.6	137.0	141.7	100.6	100.6
Net Increase in Revenues Less Increase in Operating Costs ($000)	123.0	126.1	168.4	135.8	35.2	34.9
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	13.1	13.4	1.4	1.1	1.0	1.0

* Five percent increase on the 1983 total wage and salary bill for the Township of West Lincoln.

TABLE C-20

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION INCREASED WAGE AND SALARY LEVEL IN WEST LINCOLN SCENARIO, 1983*

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	351.8	352.0	225.8	226.8	120.8	120.7
Property taxes from households indirectly generated by OWMC	12.6	14.3	16.2	17.5	20.2	20.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.2	-2.1	-2.3	-3.9	-2.5	-3.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	360.6	363.1	235.6	218.4	134.4	134.1
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	40.5	45.7	50.3	54.3	59.1	59.1
Total	168.5	166.7	135.3	139.3	167.1	177.1
Net Increase in Revenues Less Increase in Operating Costs ($000)	192.1	196.4	100.3	79.1	-32.7	-43.0

* Five percent increase on the 1983 total wage and salary bill for the Township of West Lincoln.

TABLE C-21

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR AREA MUNICIPALITIES BY SITING OPTION DEBT CHARGES INCLUDED SCENARIO, 1983

	Siting Options					
	West Lincoln		Niagara Falls		Milton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	239.6	239.9	287.8	288.8	129.2	129.1
Property taxes from households indirectly generated by OWMC	8.0	7.2	27.7	29.8	16.3	16.3
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.3	-2.2	-3.6	-6.2	-3.7	-4.9
Reduced property taxes from existing uses on siting options	-1.7	-1.2	-6.5	-34.9	-6.0	-5.0
Net Increase in Revenues ($000)	243.6	243.7	305.4	277.5	135.8	135.5
Increase in Operating Costs ($000)						
Directly attributable to OWMC	72.0	70.0	77.0	77.0	79.0	79.0
Indirectly attributable to OWMC	10.7	9.6	63.4	68.3	22.6	22.6
Total	82.7	79.6	140.4	145.3	101.6	101.6
Net Increase in Revenues Less Increase in Operating Costs ($000)	160.9	164.1	165.0	132.2	34.2	33.9
Net Increase in Revenues as Percent of 1983 Local Purpose General Tax Rate (%)	17.1	17.5	1.3	1.1	1.0	1.0

TABLE C-22

INCREASES IN REVENUES AND OPERATING COSTS DUE TO OWMC FACILITIES FOR REGIONAL MUNICIPALITIES BY SITING OPTION DEBT CHARGES INCLUDED SCENARIO, 1983

	Siting Options					
	Region of Niagara				Region of Halton	
	LF-3C	LF-9C	LF-1E	LF-1E/ PI-27E	LF-4N/ PI-1N	LF-4N/ PI-13N
Increase in Revenues ($000)						
Payments-in-lieu from OWMC	351.8	352.0	225.8	226.8	120.8	120.7
Property taxes from households indirectly generated by OWMC	12.6	14.3	16.2	17.5	20.2	20.2
Decrease in Revenues ($000)						
Reduced property taxes due to negative property value impacts	-2.2	-2.1	-2.3	-3.9	-2.5	-3.4
Reduced property taxes from existing uses on siting options	-1.6	-1.1	-4.1	-22.0	-4.1	-3.4
Net Increase in Revenues ($000)	360.6	363.1	235.6	218.4	134.4	134.1
Increase in Operating Costs ($000)						
Directly attributable to OWMC	128.0	121.0	85.0	85.0	108.0	118.0
Indirectly attributable to OWMC	41.6	46.9	51.6	55.7	61.2	61.2
Total	169.6	167.9	136.6	140.7	169.2	179.2
Net Increase in Revenues Less Increase in Operating Costs ($000)	191.0	195.2	99.0	77.7	-34.8	-45.1

APPENDIX D
CONTACTS

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APPENDIX D
CONTACTS

The following are the persons contacted by phone, letter or interview during Phase 4A of the site selection process as part of the municipal finance impact analysis. The list is divided as follows: Ministry of Revenue; and area and regional municipalities.

MINISTRY OF REVENUE

E. Winter, Director, Field Operations Branch, Oshawa; September 8, 1983, December 13, 1983, July 11, 1984, September 6, 1984 and April 10, 1985.

Mr. Nicholson, Property Assessment, Region No. 13, Durham; December 15, 1983.

Mr. Clark, Property Assessment, Region No. 18, Niagara; January 4, 1984.

D. Elliot, Property Assessment, Region No. 18, Niagara; January 4, 1984.

Mr. Bertrand, Property Assessment, Region No. 19, Hamilton-Wentworth; July 11, 1984.

D. Rossier, Property Assessment, Region No. 18, Niagara; July 16, 1984.

W. Thompson, Property Assessment, Region No. 15, Halton-Peel; August 2, 1984.

G. deJong, Property Assessment, Region No. 15, Halton-Peel; October 2, 1984.

AREA AND REGIONAL MUNICIPALITIES

F. Walsh, Chief Administrative Officer, S. Mowder, Treasurer, and C. Eidt, Director of Engineering, Region of Niagara; August 13, 1984.

W. Holman, Research Director of Public Works, Region of Niagara; July 10, 1985.

J. Killins, Clerk, and R. Mens, Treasurer, Township of West Lincoln; August 1, 1984 and July 11, 1985.

J. Collinson, Chief Administrative Officer, City of Niagara Falls; November 5, 1984.

D. Perlin, Chief Administrative Officer, J. Rinaldo, Treasurer, and G. Woodburn, Manager of Waste Disposal, Region of Halton; November 28, 1984 and July 12, 1985.

R. Main, Chief Administrative Officer, Town of Milton; September 5, 1984.